This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

COUNTWAY LIBRARY
HC 4PZ4 B

ULTRA-VIOLET LIGHT

HUGO BACH M·D·

Digitized by Google

A.N.B.
7/12/1916.

22.2V.78

BOSTON MEDICAL LIBRARY

PURCHASED FROM THE INCOME OF THE

OLIVER F. WADSWORTH FUND

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

ULTRA-VIOLET LIGHT

Digitized by Google

Digitized by Google

ULTRA-VIOLET LIGHT

BY MEANS OF THE ALPINE SUN LAMP

TREATMENT AND INDICATIONS

BY

HUGO BACH, M.D.

BAD ELSTER, SAXONY, GERMANY

AUTHORIZED TRANSLATION FROM THE GERMAN

NEW YORK

PAUL B. HOEBER

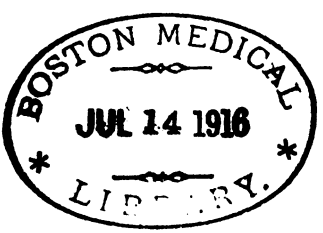
1916

Digitized by Google

13942 Sad. 90

Copyright, 1916,
By Paul B. Hoeber

Published June, 1916



Printed in the United States of America

Digitized by Google

PREFACE

Although the use of the Alpine Sun Lamp has now secured an undisputed place in medicine, there is still much that is unknown concerning this new method of treatment. Comprehensive descriptions of its development and effectiveness have been published, but we still lack a brief description of the things worth knowing regarding technique and a detailed review of its indications. Although the study of this new method is by no means concluded, so much positive information is now at our disposal that this little book will, it is hoped, fill a decided want.

HUGO BACH, M. D.

Digitized by Google

Digitized by Google

CONTENTS

INTRODUCTION

PAGE

DESCRIPTION OF THE ALPINE SUN LAMP . . 13

PART I

THE ULTRA-VIOLET LIGHT AND ITS USE . . 25

PART II

RADIATIONS 60

INDEX 109

Digitized by Google

Digitized by Google

LIST OF ILLUSTRATIONS

FIGURE		PAGE
1.	The Alpine Sun Lamp, New Model, 1913	12
2.	The Quartz Burner	15
3.	The Alpine Sun Lamp on Stand	19
4.	Treatment with Two Alpine Sun Lamps Simultaneously	20
5.	The Hagemann Ring	22

Digitized by Google

Digitized by Google

Digitized by Google

FIG. 1.—THE ALPINE SUN LAMP, NEW MODEL, 1913.

Digitized by Google

BOSTON MEDICAL
JUL 14 1916
LIBRARY.

ULTRA-VIOLET LIGHT

INTRODUCTION

DESCRIPTION OF THE ALPINE SUN LAMP

The new model (1913) of the Alpine Sun Lamp, as designed by Dr. Bach (Elster), Dr. Breiger (Berlin), Dr. Nagelschmidt (Berlin), Dr. König (Marburg), and Dr. Hagemann (Marburg), shows many improvements over previous types and consists of the following parts:

I. THE QUARTZ BURNER

The burner (the source of light) is a transparent quartz tube from 2½ to 5 inches long. At each end is applied a transverse vessel made of quartz and containing the mercury poles. These polar vessels are surrounded by metallic coolers by means of which the dissipation of heat and

Digitized by Google

hence the strength of the current are regulated. The external current enters each polar vessel between the coolers.

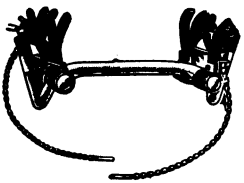


FIG. 2.—THE QUARTZ BURNER.

To the coolers are fastened sockets by means of which the burner is held in place on two carriers in the lamp body. The insertion of a wrong burner is made impossible, as the carriers for different types of burners are placed at different distances from each other, corresponding to the lengths of the light tubes.

The burner for direct current of 110-140 volts has a light tube about 3 inches long. That for 200-240 volts has a tube 5 inches long. The burner for alternating current of any voltage has a forked, tri-polar tube, about 5 inches in length.

Digitized by Google

II. THE CASE CONTAINING THE QUARTZ BURNER

The case consists of two hemispheres of highly polished aluminum. The upper half is the case proper; the lower half serves as a shutter, which by the turn of a small wheel can be placed in any position; a lever alongside of the wheel serves to secure fixed position. As will be seen from the illustration, this permits numerous variations in the exit of the light.

Unless the very handy new stand (Fig. 3) is preferred, the case can be suspended by a cord running through a pulley attached to the ceiling. The cord should run through a second pulley near the wall and be fastened by a hook at the level of the hand. Several slip-knots tied into the cord will permit the adjustment of the lamp at any height desired and it may be drawn up after the treatment. However, the use of the counterweight, which is exactly bal-

Digitized by Google

anced, is preferable (Fig. 1). By the use of the counterweight we avoid the trouble of raising the lamp and changing the level. It is then unnecessary to fasten the cord to the wall hooks by means of slip-knots.

The shutter has a window 2½ inches in diameter, behind which is placed a revolving diaphragm with several openings of different sizes for the treatment of small areas of the skin. One of the openings is provided with dark glass through which the light may be conveniently observed. To the largest opening a tube can be attached for the inhalation of the ozone produced by the light.

In the interior of the case is a contrivance resembling the levers of a scale, on which are mounted the two carriers of the burner. This contrivance can be inclined by means of a small wheel which is fastened on the outside. The inclination to and fro causes the confluence and separation

Digitized by Google

of the mercury in the burner so as to strike the arc.

On the case is mounted an indicator which shows whether the positive and negative poles are properly connected with the street current. This is especially convenient when unfamiliar connections are encountered.

For the alternating current no indicator is necessary.

III. THE RHEOSTAT

(*a*) *Direct Current.*—The rheostat is fastened in a nickel-plated, perforated brass case. With hanging lamps this is fastened to the wall; in the case of lamps on stands it may be fastened either to the stand or to the wall. A switch and a plug for the connection leading to the lamp are attached to the rheostat. The rheostat contains, in addition to the wiring, a coil to assist in stabilizing the arc light. An or-

Digitized by Google

dinary rheostat cannot be used in connection with the Alpine Sun Lamp.

(*b*) *Alternating Current.*—The transformer-rheostat, called transformer for short, is, because of its great weight, set up separately on the floor, or it may be, if desired, mounted on casters. The varnished case, perforated and ornamented with a nickel border, contains a transformer with primary and secondary windings; and in series connection, a special reactance with an iron core, and two resistance coils. The peculiar co-ordination of these parts after the manner of a mercury rectifier cannot be replaced by an ordinary transformer.

IV. THE STAND

When the lamp is to be used at different places, it is preferable to set it up on a stand; this method is now generally used in preference to the old method of suspending the lamp from the ceiling.

Digitized by Google

FIG. 3.—THE ALPINE SUN LAMP ON STAND.

Digitized by Google

FIG. 4.—TREATMENT WITH TWO ALPINE SUN LAMPS SIMULTANEOUSLY.

Digitized by Google

The stand, 6 feet in height, nickel-plated and highly polished, with black enameled base, is movable on rubber casters. The lamp can be fixed on the stand at any desired height. A balance-weight for the lamp gives stability to the apparatus.

If two Sun Lamps on stands are used, much time may be saved by treating the patient from both sides at the same time (Fig. 4).

V. THE RING OF INCANDESCENT LIGHTS, ACCORDING TO DR. HAGEMANN (MARBURG)

Some physicians have found it desirable, when using the Sun Lamp, to imitate as far as possible the conditions of sunlight. Apart from the effective ultra-violet rays the quartz burner does not develop sufficient heat. To supplement this a ring of 8 incandescent lamps can be added to the case in any desired candle-power. This supply of heat also counteracts the feeling

Digitized by Google

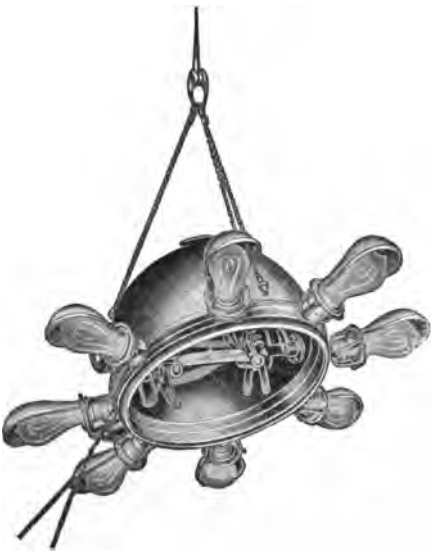


FIG. 5.—THE HAGEMANN RING.

of cold in exposed parts of the body during prolonged treatment.

VI. DIFFERENT TYPES

The Alpine Sun Lamp is furnished in four different types. They differ only as to their burners and the rheostats. The

Digitized by Google

case is the same in all. For alternating current, the burner is the same for all voltages, and only the wiring of the transformers differs.

The different burners present the following characteristics:

	Normal Current Density.	Instantaneous Demand when Lighting.	Candle Power.	Power Consumption.	Length of Burner.
Direct Current					
90-150 volt.....	4 amp.	12 amp.	1200C.P.	0.50 K.W.	ab't 3″
200-240 volt.....	2.5 amp.	9 amp.	1500C.P.	0.55 K.W.	ab't 5″
Alternating Current					
100-150 volt.....	5-7 amp.	10-15 amp.	1500C.P.	0.70 K.W.	ab't 5″
200-250 volt.....	3-4 amp.	6-8 amp.	.....	.....	3 polar

An abnormal voltage may render a special rheostat necessary. When ordering, the minimum and maximum voltage should be stated even when within above limits.

To install the apparatus it is only necessary to connect it with the lighting current by means of proper connections. About ten minutes are required, after lighting, for the lamp to reach its full in-

Digitized by Google

tensity, during which time the current density gradually reaches its normal value as shown in the above table.

Although quartz is by nature somewhat fragile, the construction of the lamp makes it safe and convenient in application. It requires no special skill to operate, has a very long life and in good hands will need repairs only at long intervals.

Digitized by Google

PART I

THE ULTRA-VIOLET LIGHT AND ITS USE

I. SUNLIGHT

For the better understanding of the light of the quartz lamp it is to be remembered that sunlight is composed of waves of different lengths.

Sunlight falling on a glass prism is split up into rays which are visible to our eye as the colors of the rainbow (red, yellow, green, blue, violet). This color-picture of the solar rays is called the spectrum.

The wave lengths of the different rays decrease from red to violet, the red having the longest, the violet the shortest wave lengths. Beyond the red and the violet of the visible spectrum are rays which are invisible. These rays are infra-red, to the left of the red, and ultra-violet, to the right of the violet.

Digitized by Google

The long-waved red and infra-red rays diffuse heat and penetrate deeply; the short-waved violet and ultra-violet rays give but little or no heat and are, on that account, called cold rays, to distinguish them from the heat rays. These cold rays are easily absorbed and do not penetrate deeply.

The wave length of the rays of the visible spectrum (red to violet) is from about 700 to 400 $\mu\mu$, whereas the length of the invisible ultra-violet rays is 400 to 100 $\mu\mu$.

II. THE QUARTZ LIGHT

Since light-therapists have learned to distinguish between the specific effects of the different qualities of light, special attention has been directed to the long waves of the red rays and to the short waves of the blue rays. The ultra-violet rays especially possess decided chemical properties which are employed successfully for the most varied medical purposes.

Digitized by Google

When Finsen laid the foundation for light therapy in certain local affections, he attributed his success with his concentrated cold light to the blue, ultra-violet side of the spectrum. But the carbon light (the electric arc light) which he used contained but few ultra-violet rays, and could therefore be used at any one time upon a small surface only. Hence the duration of the individual treatments was very much prolonged.

In the search for a more suitable source for ultra-violet rays, a great stride forward was recorded when the Danish scientist, Kjeldsen, introduced the iron light with the Dermo Lamp. This furnished a greater number of blue, violet, and ultra-violet rays than can be produced by carbon light. However, far-reaching results were not achieved by the use of ultra-violet light until the mercury vapor lamp was invented. After Dr. Arons discovered in 1892 the electric arc light which when pass-

Digitized by Google

ing in a vacuum tube between two poles of mercury emits a peculiar blue-green light, the American engineer, Cooper Hewitt, constructed the first useful mercury vapor lamp. This lamp furnished a great number of ultra-violet rays, yet it failed to make them efficient, because the light was inclosed in a glass tube which permitted the passage of but few of the violet rays. Schott & Co., of Jena, attempted to remedy this defect by the use of their Uviol glass, but not until Heraeus, of Hanau, had succeeded in fusing quartz crystal, which can stand a greater temperature than glass and is transparent to ultra-violet rays, did it become possible to manufacture a mercury quartz-lamp called Alpine Sun Lamp (see description on pages 13-24), by which ultra-violet rays are furnished in great intensity for medical and other purposes. This lamp, in the spectrum of which the red rays are almost entirely absent, produces ultra-violet rays down to a wave-length of

Digitized by Google

220 $\mu\mu$, whereas the visible spectrum shows no rays beyond 404 $\mu\mu$.

The quartz-lamp was introduced in 1907 by the Quarzlampen Gesellschaft of Hanau, Germany.[1] In the first few years the lamp was used almost exclusively in surgery and in skin diseases; that is, local affections, in the manner employed by Finsen. In the course of a few years, especially after the improvements by Kromayer, the quartz-lamp has gained an incontestable position in the therapy of these afflictions.

It is only in the last few years that the ultra-violet rays have been employed in general treatment. Some bad results, such as skin inflammations, which occurred in the metal works of Creuzot near Paris, and Colonna near Moskau, and which Dr. Maklakoff attributed to these rays, long acted as a deterrent in their general use.

[1] Now made in the United States by The Hanovia Chem. & Mfg. Co., Newark, N. J.

Digitized by Google

The general treatment with these rays from artificial light sources did not gain a foothold until Dr. Rollier of Leysin, and before him Dr. Bernhard of Samaden, had found that sun baths in the Alps, with which they achieved great success in cases of tuberculosis (especially of the bones and the joints), were effective principally because of the abundance of ultra-violet rays. Even before that time, the action of sun baths had been attributed to the effect of the ultra-violet rays. But as the ultra-violet rays of the sunlight are largely absorbed by the vapor sphere of the earth—and there are in consequence only few of these rays in the sunlight on the plains—the specific ultra-violet ray action of the sun bath was long doubted. In 1903, Rieder maintained, without direct contradiction, that sun baths acted solely through the medium of red heat rays. The quartz-lamp put an end to these doubts. It was possible to study, by this artificial source

Digitized by Google

of light without disturbing factors, the effects of the ultra-violet rays upon the human body in general treatment.

The Alpine Sun Lamp, as designed by the author, was put on the market in 1911. The newest model is that of 1913, and is described in the introduction above. This model is suitable to every kind of treatment with quartz light, and its therapeutic value results from the great intensity of ultra-violet light developed by the lamp.

III. THE BEST SOURCES FOR THE ULTRA-VIOLET LIGHT

Although the sun is the natural and strongest source for ultra-violet light rays, still the Alpine Sun Lamp is preferable for medical use for the following reasons:

1. Because the sun does not always shine.
2. Because the ultra-violet rays of the sun are absorbed to a very large degree by the vapor sphere surrounding the earth, and these rays

Digitized by Google

are therefore available in sufficient number and strength only in the pure air of high mountains under a clear sky.

3. Because the Alpine Sun Lamp can be utilized at any time and in any place.

IV. TECHNIQUE OF TREATMENT WITH THE ALPINE SUN LAMP

In the circular received with every Alpine Sun Lamp are found all details concerning installation, etc. We may here emphasize the following points concerning the technical procedure.

I. Technical Procedure

Light the lamp and let it burn, with the shutter closed, for five minutes. Do not begin the treatment prior to that time, as the strength of the light increases for five minutes and exhibits its greatest power not before that time.

During this period the patient is placed

Digitized by Google

in the most suitable relation to the lamp and the position of the light adjusted correctly.

Remember that on convex surfaces (shoulders) an unequal effect of the light is produced, such effect being stronger where the light strikes the surface at right angles than in places on which it falls at an acute angle. In case a larger surface is exposed avoid, further, a frequent mistake, namely, that individual portions such as the knees of the patient are left much nearer to the lamp than the abdomen. Such a position may cause a burn of the nearer points and a lack of effect on the farther points.

In women, it may happen that the artificial sunlight, without being noticed, is allowed to shine through thin blouses with wide meshes. Material for clothes is impenetrable to the ultra-violet light only when ordinary light rays cannot directly penetrate it.

Digitized by Google

Guard the eyes against the light of the Alpine Sun Lamp by the use of protective goggles or of a dark cloth which is impenetrable to light. As ultra-violet rays may cause a painful inflammation of the conjunctiva, it is important to furnish a pair of goggles to every person who is within fifteen yards of the source of light. Not only the light which is radiated directly, but even that which is reflected from bright surfaces such as the white underwear of the patient, can result, after some exposure (five minutes to thirty minutes), in conjunctivitis or at least in uncomfortable irritation. Goggles of light-colored glass are sufficient to protect the eyes. They are better than dark glasses if observations or notes are to be made during the exposure.

However, stress is to be laid upon the fact that the ultra-violet light is not injurious to the eyes, even in the case of very great abuse, and that any inflamma-

Digitized by Google

tion of the conjunctiva that may have occurred heals in a few days without any treatment whatever. Burning of the skin by the sun lamp also does not result in any lasting injury. For this reason no comparison can be made between the lamp and the Röntgen rays, which may indeed cause serious lasting injuries to the organism in case of continued and too intense application.

The Alpine Sun Lamp should not be lit anew for every new patient, but should be allowed to burn continuously: first, so as to always have the same strength of light available; second, because the burner suffers more in consequence of repeatedly starting the current than if there is a continued burning. In the intervals between treatments the shutter of the lamp should be left half open. Be careful to guard against meddlers looking into the burner and so contracting conjunctivitis.

It is not necessary to protect the burner

Digitized by Google

against a sudden change of temperature such as may result from opening a window. Quartz is insensible to changes of temperature. After the lamp is switched off, it needs, therefore, no further attention.

The place where the lamp is used must be kept well aired.

II. How to Apply the Rays

The part of the body which is to be treated must be exposed to the light from the Alpine Sun Lamp directly and without covering. Nearly every material except quartz absorbs the ultra-violet rays to some degree.

Whether the rays are allowed to issue vertically or horizontally the lamp should be so placed that the arc tube of the burner is parallel to the surface under the treatment. A distinction is to be made between local treatment in the case of local disease,

Digitized by Google

and general treatment in the case of general disease. The following statements are made upon the basis of the application of a light furnished by an Alpine Sun Lamp of 1,500 candle power. Lamps with greater candle power require briefer exposure and also a greater distance from the source of light.

(*a*) *Local Treatment.*—First treatment: duration of three minutes at a distance of twenty inches from the part of the body to be treated.

The succeeding treatments are prolonged three minutes longer each until a maximum exposure of thirty minutes at the same distance from the lamp is reached.

Treatment should be given every second to fourth day until completed.

Time of exposure, lapse of time between the different exposures, and number of exposures, depend upon the individual sensitiveness to ultra-violet rays. (See be-

Digitized by Google

low under V, Effect of the Use of Alpine Sun Lamp on the Parts Exposed to the Rays.)

Surfaces may be rayed either by closing the shutter and letting the light fall through a corresponding opening in the revolving diaphragm, or by covering with a dark cloth the parts surrounding the lesion.

(*b*) *General Treatment.*—(With lamp open—never through diaphragm.) First treatment: duration, three minutes; distance, forty inches.

Each subsequent treatment should last three minutes longer, until a maximum exposure of thirty minutes is reached. At every treatment the lamp should be placed four inches nearer to the part to be treated, until the shortest distance is reached, which is twenty inches, and this is to be retained during all further treatments.

The lamp should be used every second to fourth day until treatment is completed. In the case of chronic diseases, an intermis-

Digitized by Google

sion of from three to four weeks should be made after from twelve to fifteen treatments.

Always treat as large a surface of the body as possible, either the anterior or the posterior surface of the whole body, or, at least, chest and abdomen, or back. If two lamps are available, the front and the back of the body can be treated at the same time.

In the case of general treatment, time of exposure, lapse of time between the several exposures, and the number of exposures given depend upon the individual sensitiveness to ultra-violet rays. (See below under V, Effect of the Use of Alpine Sun Lamp on the Parts Exposed to the Rays.)

In the case of general treatment, the shutter must remain entirely open.

From three to five persons may be treated simultaneously under one lamp, but they must change places during the treat-

Digitized by Google

ment so that every person is affected evenly by the vertical and the slanting rays of the lamp.

III. Inhalation

The ozone which the Alpine Sun Lamp develops can be used for inhalation. The quartz burner, especially shortly after it has been lit, produces ozone in considerable quantities. Therefore, the inhalation should be commenced immediately upon lighting the burner. The ozone should be inhaled at a distance of fifteen or twenty inches from the lamp, and for a period not exceeding ten to fifteen minutes. Protect the head and especially the eyes. (See above.)

V. EFFECT OF THE USE OF THE ALPINE SUN LAMP ON THE PARTS EXPOSED TO THE RAYS

I. First Local Treatment

During the treatment there is, in the beginning, a feeling of warmth; with con-

Digitized by Google

tinued use comes a slight tingling, and burning results from very strong radiation..

From three to four hours after the treatment, a slight tingling or burning is felt which disappears in two or three days.

Dry lesions present no visible change during the treatment, but moist surfaces, bleeding or secreting wounds begin to dry up after a few minutes.

In two to four hours after the treatment the part which has been treated turns red. The erythema persists for two or three days and is followed by a tan. The dried-up places remain dry. Subsequent treatments produce no disturbing symptoms, but there may be some reddening or more thorough drying-up.

II. First General Treatment

Only in the case of a very sensitive skin is there a slight reddening, otherwise there is no visible change.

Digitized by Google

In three or four hours after the treatment the surface of the exposed skin shows, if the radiation has been very strong, a decided redness, and may develop blisters. Gradually the redness decreases within two or three days and some pigmentation appears. After strong reddening and blistering, the skin peels. Blisters dry up without treatment.

Owing to the increasing degree of immunity produced, subsequent treatments are not accompanied by further sensation, but there is an increased tanning of the skin.

If the intervals between treatments have been rather long, or after a very severe radiation (short distance from the lamp and long period of exposure), the effect may be the same as after the first treatment.

Local or general injuries, even in the case of very strong exposure followed by blistering, are out of the question, as ultra-

Digitized by Google

violet rays do not penetrate more than 1/50 inch into the skin; that is, they penetrate merely into the uppermost layer of the epithelium. Blisters heal invariably without leaving scars.

Injuries from a possible bursting of the quartz burner, which is an exceedingly rare occurrence, cannot result in anything more serious than a slight burn from the hot fragments of the quartz-glass falling upon the skin, and that only if the patient has been placed directly under the Alpine Sun Lamp. Even that risk may be avoided by suspending a screen of quartz-glass under, or by placing the patient in a lateral position to the lamp. There is, therefore, no danger in using the Alpine Sun Lamp, and it can readily be applied by any practitioner.

Digitized by Google

VI. EFFECT OF GENERAL TREATMENT UPON THE GENERAL ORGANISM

During the treatments there is a feeling of calmness and restfulness which may increase to sleepiness.

The pulse grows more even and fuller; breathing becomes deeper, but the number of pulse beats and of respirations remains unchanged.

After the treatments there is a feeling of freshness and well-being. The sleep is calmer and deeper, and the appetite is better.

The pulse is fuller; the heart-beat stronger; the breathing is deeper, and the number of heart-beats and of respirations remains unchanged. Blood pressure decreases, diuresis is increased. The red blood corpuscles are not affected; the number of white corpuscles is diminished. Oxidation as well as reduction in the organism is increased.

Digitized by Google

The favorable effect produced in angio-neurotic conditions, arterio-spastic phenomena and paræsthesias, if due to vaso-motor disturbances, indicates that the sympathetic nervous system is directly affected by treatment with the lamp.

Too strong a treatment at too short a distance from the Alpine Sun Lamp, or with too long a period of exposure, may cause a sensitive patient to suffer from congestions in the head, headache, ringing in the ears, or a feeling of lassitude. But these complaints soon disappear or can readily be relieved by small doses of brandy, port wine, or other spirituous liquors. Afterwards, the patients enjoy, regularly, a sensation of well-being and freshness.

Itching and burning, following upon intense reddening of the skin or blistering, are relieved by diachylon powders or salve. But usually the complaints disappear soon without treatment.

Digitized by Google

VII. EFFECTS OF INHALING THE OZONE DEVELOPED BY THE ALPINE SUN LAMP

Deep inhalations through nose or mouth produce a feeling of freshness, and dryness of the mucous membranes of the nose and throat.

If the inhalations are continued too long, they may be followed by congestions in the head and ringing in the ears. But these soon yield if the patient goes out into the open air or takes a small dose of an alcoholic beverage.

To avoid any of these complaints it is suggested that inhalations be discontinued once in a while for three minutes at a time. When made in this manner, periods of inhalation, each lasting up to fifteen minutes, are tolerated well by the patients.

VIII. DIFFERENT DEGREES OF SENSITIVENESS TO ULTRA-VIOLET RAYS

The technique of the treatment should be adapted to the individual sensitiveness of the skin to ultra-violet light.

Digitized by Google

It is necessary to find out whether the epidermis is thick or thin, whether the skin is dry or fat, and perspires easily or with difficulty or not at all, and whether it is pale or red or pigmented.

A thin epidermis and a dry, readily perspiring skin or one which is pale or red, react more easily to ultra-violet rays than do a thick epidermis and a skin which is fat, which perspires with difficulty or not at all, and is pigmented. It is above all important whether the epidermis is thick or thin. For example, a dry skin, which perspires readily, is pale or red, but has a thick epidermis, may react with difficulty, but a skin with a thinner epidermis may react readily, even though the skin be fat, perspires with difficulty or not at all, or be pigmented. The sensitiveness of the skin, too, must be considered, and especially whether the skin, when stroked, is reddened easily or with difficulty. In the first case, the skin is generally more prone

Digitized by Google

to react to ultra-violet light than in the second case. Many variations are observed. There is as yet no definite rule as to the sensitiveness of the individual skin to ultra-violet rays, but observation and experience will soon teach us to choose a proper distance from the lamp and the right period of exposure. We have therefore given under Technique general directions as to the distance from the lamp and period of exposure, so that, even in case of a very sensitive skin, no undue reaction can set in. If the skin is little sensitive to ultra-violet light, the first general treatment may be given at a distance of 20 inches and an exposure of from eight to ten minutes.

For those who are just beginning to use the Alpine Sun Lamp, it is advisable to be guided by the data given under Technique, so as to test the sensitiveness of the skin. If the skin is but little sensitive to the rays, the time of exposure may be

Digitized by Google

extended and the distance from the lamp shortened beyond what is suggested under Technique. But in case of a sensitive skin, the data given under Technique hold good.

It is important to consider also whether it is desirable to produce simply a stimulation or an irritation of the part treated, or of the general organism. For instance, flabby granulations can stand strong local treatment from the start, but fresh wounds must be treated gently. In case of general treatment, a reddening, appearing in from three to four hours after the first treatment, should be the object aimed at. The experienced practitioner who knows the candle-power of his lamp and who has learned to gauge the sensitiveness of individual skins, can accomplish this without difficulty. The greater or lesser reddening of the skin demonstrates in most cases whether the effect produced upon the general system is as desired or too severe or

Digitized by Google

insufficient. In some diseases (e. g., tuberculosis) many experts desire very strong reactions even to vesication.

A skin which reacts with difficulty to ultra-violet rays can be sensitized by one of the following methods:

1. By the simultaneous employment of the Alpine Sun Lamp and electric incandescent lamps which emit heat rays.

2. By taking the cures in watering resorts and especially mud baths, because these improve the circulation in the uppermost layers of the skin.

3. By certain internal medication. Particulars will be given later, as experiments to this end have not been finished.

But the rule in every case is: Individualize; never generalize.

IX. THE PIGMENT

The tanning of the parts treated by the Sun Lamp is, as in sunburn, caused by the formation of a pigment.

BOSTON MEDICAL
JUL 14 1916
LIBRARY.
Digitized by Google

According to Meirowsky, pigment is a secretion of the cell nucleus produced independently of blood and hæmoglobin.

According to Linser, the pigment of the skin is the product of the same cells as the sebum. Both are closely related chemically. The relation between pigment and sebum is shown by the fact that persons with deeply pigmented skins also have a more profuse sebaceous secretion than others.

According to Diesing, it is in the pigment of the skin that resorption of the ultra-violet rays takes place.

According to Weidenreich, the pigment serves, as does also the sebum, as a heat regulator of the whole bodily economy.

The effect of the light absorption may thus be described as to some extent due to the increased pigmentation, and the pigment is not to be regarded merely as a protecting cover against the irritating ef-

Digitized by Google

fect of the short waves of the ultra-violet rays.

X. CASES

The following cases will show that even very powerful treatment and abnormal reactions to normal treatments, as well as treatments when there is a tendency to pulmonary hemorrhages, are not alone devoid of danger, but are productive of good.

Case I. To ascertain the effect upon skin, eyes, and general condition, the author applied the Alpine Sun Lamp upon himself with great intensity and without protecting his eyes. Exposure thirty minutes at a distance of 16–20 inches from a 3,000 candle-power lamp. Head and body were treated alternately; the distance from the lamp was changed repeatedly.

After three minutes there was a sensation of warmth; after ten minutes there was a burning over the parts treated; otherwise, there were no complaints.

Digitized by Google

In about two or three hours after the treatment there appeared an intense reddening of the parts treated; the reddening increased, and disappeared in three days. There was no blistering. Thereupon, the epidermis became dry and hard like parchment, and peeled off in thick scales within a week. The new epidermis was elastic and brown.

The conjunctiva commenced to redden about two hours after the treatment; it became inflamed and painful.

After three days the inflammation and the pains disappeared without treatment.

The burning of the skin lasted for three days and then disappeared gradually.

Immediately after the treatment there was a feeling of freshness and of increased energy, which lasted for days. In the night following the treatment there was sleeplessness, without excitement, accompanied by a feeling of perfect well-being. In the

Digitized by Google

succeeding nights there was notably quiet and refreshing sleep.

This was a case of an intentional over-stimulation in a person in good health. The resulting inflammatory phenomena were left untreated so that the return to the normal could be studied.

Case II. The patient, a lady forty-five years old, anæmic, with a thin, pale, and very sensitive skin, was treated on the back for three minutes at a distance of twenty inches from a 1,500 candle-power Alpine Sun Lamp.

During the treatment there was only a slight feeling of warmth where the light had fallen.

About two to three hours after the treatment a redness of the whole body appeared, including the parts which had not been exposed to the light. The redness became so intense and was accompanied by so much itching and burning, that the patient had to remain in bed for three days. There was

Digitized by Google

no blistering. After three days, the reddening, itching, and burning gradually disappeared. The skin peeled off in thin scales and was slightly browned.

While the itching and the burning lasted, there was a slight feeling of excitement, but after three days a feeling of freshness and well-being set in which lasted for days. From then on the patient's anæmia improved visibly.

This case shows that treatment should be commenced with care in cases of a sensitive skin. A distance of forty inches and a three-minutes' treatment would have been right. Though the reaction was very strong, the treatment did much good.

Case III. The patient, a man thirty-five years old, a neurasthenic who was inclined to congestion and headache, was given a treatment over head, breast, and abdomen with eyes protected, lasting for six minutes, at a distance of forty inches from a 3,000 candle-power Alpine Sun Lamp.

Digitized by Google

Three minutes after beginning the treatment congestion in the head and ringing in the ears set in. On taking the patient into the open air, the congestion and the ringing in the ears disappeared.

After the treatment the patient had headache for two days. Then he felt better and fresher than before; the skin reaction took a normal course. All subsequent treatments were given with the head covered, and were tolerated well. They had a particularly good effect upon the tendency to congestion.

In the case of congestion in the head and headache, the head should not be exposed to the rays of the lamp; treatment over front and rear of the body, however, is useful. Congestion in the head during the treatment disappears immediately upon exposure to the open air.

Case IV. The first treatment of the patient, a male neurasthenic thirty years old, lasted eight minutes, the distance being

Digitized by Google

three feet from a 3,000 candle-power Alpine Sun Lamp. It was given on chest and abdomen, head and eyes being protected.

During the treatment there were no complaints, but soon afterward headache and lassitude set in. These disappeared in two days, and were followed by a feeling of well-being and freshness.

The skin reaction took its normal course. Subsequent treatments were reduced in length. The patient stood them well, and thereafter felt better than he did before the treatment.

In cases of neurasthenia, it is advisable to give mild treatment in the beginning, so as to avoid undue irritation. Ill effects soon disappear, as in the preceding case, and leave no injurious results, but pass off into a feeling of well-being.

Case V. The patient, a man thirty-four years of age, was a case of advanced pulmonary tuberculosis who had had re-

Digitized by Google

peated hemorrhages. He received regular treatments two or three times a week for one year, alternately over front and rear of the trunk, head and eyes being protected. Exposure up to thirty minutes; distance, twelve to twenty inches from a 1,500 candle-power Alpine Sun Lamp.

The skin reaction was normal. The treatments were often so strong that blisters were formed. The skin peeled repeatedly, and became very brown.

Since the treatment there have been no more hemorrhages of the lungs, and the patient feels fresh. The condition of his lungs and his general health are materially improved. Râles have disappeared. Patient continues the treatment.

This case demonstrates the benefit derived, in pulmonary tuberculosis, from the use of the Alpine Sun Lamp, and is cited here chiefly because no pulmonary hemor-

Digitized by Google

rhages have appeared since the treatment commenced. Therefore, inclination to hemorrhages presents no contra-indication for the employment of the Alpine Sun Lamp.

Digitized by Google

PART II

RADIATIONS

The cases cited below are taken partly from publications, partly from reports made to the author, and partly from the observations made by the author himself.

A. Local and General Treatment

TUBERCULOSIS

After Bernard (St. Moritz) and Rollier (Leysin) had used sunlight in cases of tuberculosis, König and Hagemann (Marburg) and others recommended local and general treatment with the Alpine Sun Lamp in this disease.

König and Hagemann (*Deutsche med. Wochenschrift,* No. 30, 1913) gave the first local treatments at a distance of twelve to

Digitized by Google

sixteen inches from the Alpine Sun Lamp, exposure time three minutes. Each subsequent treatment lasted three minutes longer, until a maximum of thirty minutes was reached. The treatment was given daily or every other day. The part surrounding the place treated must be covered carefully.

The first general radiation should be given at a distance of from thirty-two to forty inches from the Alpine Sun Lamp, and should last five minutes. Each following treatment should be five minutes longer, until a maximum of two, three, and even four hours is reached. The anterior or posterior of the body should be exposed, and both sides may be treated at the same time or immediately following one another. The face must be well covered.

According to the author's experience, one-half hour should be the maximum for general treatment.

General treatments are highly recom-

Digitized by Google

mended in addition to local treatments, because, according to several authors, they make the patients immune against toxins and improve the general health.

(*a*) *Tuberculosis of the Bones and Joints.*—The Alpine Sun Lamp treatment causes a reduction of the swelling, improvement of the mobility and lessening of the pains, drying up of existing fistulæ, and rapid cure of granulating wounds.

(*b*) *Tuberculosis of the Lymphatic Glands.*—Broken-down glands should be removed before treatment with the Alpine Sun Lamp is commenced.

(*c*) *Lupus.*—General treatment is recommended in addition to the local treatment.

Jesionek (Giessen) covered the lesion itself and cured lupus by general treatment only.

Severe general treatment extending even to blistering is called for in such forms of tuberculosis as have been mentioned.

Digitized by Google

RHINITIS, ACUTE AND CHRONIC; OZENA; HAY-FEVER

BRASCH (Höchst am Main) was able to dispel ordinary attacks of rhinitis by single treatments of the whole body, head and eyes being protected by a dark cloth and goggles.

The author has successfully treated cases of acute and chronic rhinitis, ozena, and especially hayfever, by local and general exposure. The local treatment was so given that the rays were, by means of a speculum, led into the nose, the head and eyes well covered with a dark cloth. Time of exposure from three to ten minutes; distance from the Alpine Sun Lamp, twenty inches. The treatments were given every second or third day, a general treatment always following a local treatment, in the manner indicated under Technique. In hayfever, the general radiation appeared to be very helpful.

Digitized by Google

NEURALGIA; SCIATICA

BRUSTEIN (Petrograd) writes in the *Zeitschrift für physikalische und diätetische Therapie,* Bd. XIII, No. 9, 1909, under "The Alpine Sun Lamp as an Anti-Neuralgic":

"I treated 53 cases with the Alpine Sun Lamp, of which 29 were sciatica, 3 neuralgia of the brachial plexus, 5 intercostal neuralgia, 6 arthralgia, and 3 lumbago. Complete recovery was obtained in 35 cases, considerable improvement in fifteen cases, while in three cases no change was observed.

"The results in detail are as follows:

	Complete Recovery.	Considerable Improvement.	No Change
Sciatica	23	5	1
Neuralgia of the 5th nerve	..	2	1
Neuralgia of the occipital nerve	..	3	..
Neuralgia of the brachial plexus	2	1	1
Intercostal neuralgia	5	..	..
Arthralgia	3	3	..
Lumbago	2	1	..

Digitized by Google

"All these cases were treated between September, 1908, and April, 1909. The plan of the treatments was in most cases as follows: At the first session those regions of the skin were treated which corresponded to the painful points; time of exposure one to two minutes. A few days after the reaction had become manifest, the treatments were either repeated or new regions were exposed which corresponded to other painful points. In some cases larger regions were treated right from the beginning or in the course of later sessions. The distance between the light and the skin was about two to three inches. The reaction generally ran its course as follows: About six to eight hours after the treatment the skin turned red, the redness became gradually more intense, and, with stronger reaction, there were even blisters; after the lapse of about twenty hours, these phenomena reached their climax, and thereafter the intensity gradually decreased;

Digitized by Google

after three or four days, the inflammation disappeared, and pigmentation occurred, which lasted a longer or shorter time. When the reaction was at its height, the patients often complained of burning and itching. If certain regions had to be treated repeatedly, it was necessary, if there had previously been a reaction, to extend the time of exposure by from four to five minutes in order to obtain a new reaction. It often occurred that the pains became less before the reaction set in, but usually it took from twenty-four to twenty-six hours. In some cases the pain increased as the reaction appeared, but grew less later. I cannot speak definitely as to the effect of the duration of the disease upon the results of treatment, but I have had good results in recent cases as well as in cases of long standing (several years) which had been greatly neglected. The etiology in the different cases varied greatly: cold, rheumatism, gout, lues, etc.

Digitized by Google

The number of treatments necessary to cure neuralgia also varies greatly. It is generally from one to ten."

There can be no doubt that the Alpine Sun Lamp removes or at least alleviates the pain of neuralgia.

OSTERMANN (Vienna) has completely cured, in twenty-two treatments, a neuralgia of the trigeminal nerve which specialists had treated in vain for many years.

NEBRING (Düsseldorf) also reports good results with the Alpine Sun Lamp in cases of neuralgia. The subjective condition improved, and the objective symptoms disappeared.

OSTERMANN (Vienna) found that in cases of sciatica the pain disappeared in a surprisingly short time, often indeed after the third treatment. However, twenty or more are usually necessary to remove all objective symptoms, and allow the patient to be discharged as cured.

LENGEMANN (Bremen) cured a case of

Digitized by Google

acute sciatica by a single treatment; in this case there was a violent skin reaction.

Schaer (Basel) effected a cure in four out of five cases of sciatica by from five to eight treatments with the Alpine Sun Lamp. One case remained refractory.

B. Local Treatment

SCROFULOUS OTITIS MEDIA

Aigner (Vienna) treated with the Alpine Sun Lamp a case of purulent scrofulous otitis media, with stinking reaction, throwing the rays directly on to affected parts. As a result, the secretion disappeared, and after two months even the granulations, which had been abundant, receded.

OSTEOMYELITIS

Herzer (Rheinfelden) observed, in a case of osteomyelitis of the leg which had been operated upon repeatedly, that the

Digitized by Google

circulatory disturbances which had existed for a long time improved by treatment with the Alpine Sun Lamp and the edges of the retracted scars were raised to the level of the surrounding normal skin.

CHRONIC TENOSYNOVITIS

By several months' treatment with the Alpine Sun Lamp, in a chronic case of tenosynovitis in a woman forty years old, AIGNER (Vienna) caused the swelling and the pains to disappear.

KNEE-JOINT ANKYLOSIS AND SCAR-CONTRACTION

VON DEWITZ (Kreuznach) reports that by the use of the Alpine Sun Lamp in a case which had been diagnosed by a Röntgen examination, the patella became free and the cicatrices which had been firmly adherent to the capsule of the joint became freely movable.

Digitized by Google

FRESH WOUNDS, ESPECIALLY INFECTED LACERATED WOUNDS

The author treated a badly lacerated infected wound of the little finger for three days daily from five to ten minutes at a distance of sixteen inches from the Alpine Sun Lamp. The first treatment arrested the hemorrhage; the wound dried quickly and healed after a few days without inflammation or other treatment.

GRANULATING WOUNDS

The granulations dry up visibly and the wounds become quickly covered with epithelium.

BRUISES AND HÆMATOMATA

SCHAER (Basel) healed rapidly five cases of bruises and hæmatomata, and SARDEMANN (Sulzbach) about ten cases of infected bruises by treatment with the Alpine Sun Lamp.

Digitized by Google

BURNS

Schaer (Basel) cured in a remarkably short time a burn of the arm and one of the leg by a few treatments with the Alpine Sun Lamp.

ULCERS OF EVERY SORT

Aigner (Vienna) cured in a diabetic an ulcer of the leg, the size of the palm of the hand by the use of the Alpine Sun Lamp. After eight weeks treatment, the ulcer was completely covered with new skin.

Another ulcer, which had existed for seven years in a woman sixty-five years old, which had been treated unsuccessfully with X-rays and had been variously diagnosed as tuberculous and carcinomatous, began to dry up after only a few treatments with the lamp, and now, after twenty-five treatments, it is almost entirely cicatrized.

Weiss and Strauss (Barmen) cured a rodent ulcer by simultaneous employment of

Digitized by Google

lekutyl ointment and the Alpine Sun Lamp, the latter apparently greatly accelerating the healing.

ACNE

Among others, PHILIP (Hamburg) reports good results in cases of acne varioliformis upon the back and chest. The resulting erythema and the peeling thinned the skin and facilitated the expression of the comedones.

RHINOPHYMA

HERZER (Rheinfelden) reports a cure with the Alpine Sun Lamp in a case of a working-woman twenty-three years old, who contracted the ailment two months after gonorrhœal infection. It occupied the lower half of the nose and had been treated for about a year in a skin clinic without result. In addition there was a moderate acne vulgaris. After treating for two and

Digitized by Google

a half months once or twice a week, with the Alpine Sun Lamp, the enlargement of the sebaceous glands, the inflammation and the infiltration subsided, first here and there, and then over the entire affected surface, and the whole nose was soon covered with normal skin. Only the point of the nose showed a bluish-violet color. So far, that is, two months after the treatment was finished, there has been no recurrence.

MOLLUSCUM CONTAGIOSUM

LUSTER (Krakau) cured two cases of molluscum contagiosum with one treatment each.

FURUNCULOSIS AND CARBUNCLES

SARDEMANN (Sulzbach) obtained good results in these affections. The pustules receded promptly and did not reappear. Out of five patients with furuncles in the axilla only one patient came back with a relapse,

Digitized by Google

after one week. The others were definitely cured by from two to five treatments with the lamp.

Rüs (Kiel), Bieck (Marburg), Stein (Gottbuba), and Fürst (Hamburg), also report success with the sun lamp in cases of furunculosis.

DIABETIC GANGRENE OF THE SKIN

Mitschke (Gnesen) cured gangrene of the nose in a diabetic patient sixty-one years old. The treatment consisted of mild local and general use of the lamp.

INFLAMMATION OF THE NAILS

Strauss (Nurnberg) has cured, by the use of the lamp, inflammation of the nails in pastry cooks.

X-RAY DERMATITIS

Steuermach (Krakau) cured an X-ray dermatitis, which he had contracted, by subjecting himself once a week to treat-

Digitized by Google

ment with the lamp until slight erythema was produced.

PSORIASIS

Sardemann (Sulzbach) completely cured a recent case of psoriasis of the whole body. The patient was a blond young man who reacted strongly, even to vesication under the rays of the lamp. He was cured by a single exposure except on the dorsal surfaces, which required six treatments.

In another case of psoriasis, which had existed for years, the treatment had to be combined with the use of chrysarobin; an excellent result was obtained in places.

It will be thoroughly understood by the experienced practitioner that a permanent cure of psoriasis can hardly be expected, as the disease depends upon a congenital anomaly of the skin and its innervation. The treatment of the relapses with the Alpine Sun Lamp will be more and more preferred to other means.

Digitized by Google

PITYRIASIS VERSICOLOR

The author cured several cases of this disease by a single treatment with the lamp lasting from eight to ten minutes at a distance of twenty inches. It is important to let the rays fall perpendicularly on the affected areas. Areas difficult of access may require a second and a third treatment.

FÜRST (Hamburg) treated pityriasis capitis successfully.

URTICARIA

FÜRST (Hamburg) used artificial sunlight successfully in combating this disease. The author treated different cases of urticaria with success by the use of the Alpine Sun Lamp. A female patient twenty-five years of age, with pale, dry, and very sensitive skin which perspired easily, suffered from urticaria every time she had consumed certain articles of food and after

Digitized by Google

every excitement. Light treatment in connection with mud baths improved her condition visibly, but the cure had to be interrupted for certain reasons.

PRURITUS CUTANEUS

SCHAER (Basel) used the Alpine Sun Lamp in the treatment of pruritus cutaneus in leg ulcers and eczema. The pruritus promptly disappeared.

ECZEMA

PHILIP (Hamburg) observed in cases of eczema that it dried rapidly after the use of the Alpine Sun Lamp, and in the cases of intertriginous eczema he observed a complete disappearance in parts without employing any other means.

SCHMIDT (Dresden) had good results in cases of chronic eczema.

ABELS (Düsseldorf) cured a violently itching seborrhœic eczema by the use of the Alpine Sun Lamp.

Digitized by Google

Fürst (Hamburg) treated successfully with the lamp a number of cases of eczema of varied origin, especially occupational eczema, in builders and longshoremen.

Others who had success in eczema were Blaschko (Berlin), Lucas (Trier), and Rüs (Kiel).

Noll (Hanau) reports good results: In four cases of eczema capillitii, two of which were severe, by from four to thirty treatments; period of exposure from six to thirty minutes; in five cases of eczema of the hands or the legs by from six to eleven treatments, each lasting ten minutes; in two cases of eczema marginata by nine and ten treatments respectively, lasting ten minutes each.

Abels (Düsseldorf) cured by the use of the Alpine Sun Lamp a seborrhœic eczema which itched violently and was particularly severe about the eyebrows.

Von Dewitz (Kreuznach) found that cases of moist eczema were very much ag-

Digitized by Google

gravated under treatment with the lamp.

These failures were probably due to too severe treatment. The strength of radiation is a matter of importance in eczema. For instance, the author treated successfully a case of eczema in a woman who had a dry, non-sweating, sensitive skin, by an exposure to the Alpine Sun Lamp lasting three minutes at a distance of twenty inches. But at another time a ten-minute exposure produced no results. An intense reddening appeared together with a burning sensation, but there was no improvement of the eczema after the reddening and the burning had disappeared. The author attributed this failure to great sensitiveness of this patient's skin to quartz-light. It is therefore suggested that when treating eczema with the Alpine Sun Lamp special consideration be paid to the individual condition and sensitiveness of the skin. Failures in cases of sensitive skin may be avoided by mild treatment.

Digitized by Google

LICHEN

Noll (Hanau) cured a case of lichen planus frontis by six treatments lasting four minutes and nineteen treatments lasting ten minutes.

SEBORRHŒA

Bieck (Marburg) treated seborrhœa capitis successfully. Similar results are reported by Rüs (Kiel) and Steuermach (Krakau).

ALOPECIA DEFLUVIUM CAPILLORUM

Nagelschmidt (Berlin), in his book, "Die Lichtbehandlung des Haarausfalls,"[1] attributes direct, and in many cases surprising, success to treatments with the Alpine Sun Lamp in cases of hair diseases in general and of alopecia in particular.

[1] Translated into English by R. W. Müller, M.D., under the title "Loss of Hair." Wm. R. Jenkins Co., New York.

Digitized by Google

Abels (Düsseldorf) treated three cases of alopecia areata with good results.

Haas and Delbauce (Hamburg) report success with the Alpine Sun Lamp in a case of alopecia areata totalis which had existed for several years, and also in a case of alopecia pityrodes.

Noll (Hanau) cured two cases of alopecia areata completely by using the Alpine Sun Lamp twelve times for twelve minutes, and nine times for twelve minutes.

Philip (Hamburg) observed a rapid new growth of the hair in cases of alopecia areata. These cases were not of very long standing. A like report is made by Steinborn (Thorn).

De Nobee (Ghent) used the Alpine Sun Lamp with advantage in a case of falling out of the hair.

CANITIES

Abels (Düsseldorf) obtained considerable improvement through treatment with

Digitized by Google

the Alpine Sun Lamp in two women who had grown prematurely gray.

SYCOSIS

SARDEMANN (Sulzbach) cured sycosis of the beard solely by seven exposures to the Alpine Sun Lamp.

The author cured a case of sycosis parasitaria—after unsuccessful treatment with unguents—by two exposures of from eight to ten minutes at twenty inches distance from the lamp.

VITILIGO

HAAS and DELBANCO (Hamburg) report concerning a spot which was as large as the palm of the hand around the umbilicus and which became pigmented after treatment with the lamp.

According to BLASCHKO[1] (Berlin) the Alpine Sun Lamp is used successfully in all cases of superficial mycosis, pyodermia,

[1] *Zeitschrift für Ärztliche Fortbildung*, No. 10, 1913.

Digitized by Google

folliculitis barbæ and decalvans, in telangiectic nævus, and pruriginous affections, as well as generally in all affections associated with vascular dilatation, because the ultra-violet rays kill the bacteria of the epidermis, allay itching, have a sedative action on the nerves of the skin, and a general stimulating effect upon the whole organism.

C. General Body Treatment

A general body treatment with the Alpine Sun Lamp is indicated, in addition to local use, in all of the above-named affections, and especially in those cases in which an improvement of the general condition is sought.

I. Internal Medicine

TUBERCULOSIS

Pulmonary Tuberculosis.—Among the many cases which have been successfully

Digitized by Google

treated with the lamp, the following may be mentioned which KRÜGER (Plauen) reports in the *Allgemeine Medizinische Zentralzeitung*, Nr. 5-6, 1914:

Patient was a student, with tuberculosis of the right lung, and had been in a sanitarium for five months. He had there gained three pounds in weight and presented a temperature of 100.5° F. About six months later he was treated by KRÜGER, readmission to the sanitarium having been refused. During the six months which he spent at home he had nearly always a high temperature. Once it rose to 104° F. When he first consulted KRÜGER on April 18, 1913, his temperature was 102° and his weight was 124 pounds. The right upper and middle lobes were diseased; the left lung was less affected. Under the action of treatment with the Alpine Sun Lamp the temperature varied in the evening between normal and 102.8° F. Still, the appetite increased, and from the beginning of

Digitized by Google

May the patient felt fresher and better. On May 27th his weight was 135 pounds, although there still were evening temperatures of 102° and 103° F. Patient did not take a rest cure. From the end of June, the evening temperature was normal, the condition of the lungs had improved; on the right side there still were crepitant râles. In the middle of June he weighed 140 pounds, and his cough had disappeared almost entirely, the patient having in the beginning of the treatment expectorated almost continuously. In the middle of August he weighed 153 pounds; his temperature remained normal; but there still were increased respiratory sounds. Early in September he weighed 159 pounds. In October he took a three weeks' walking trip through the mountains. On his return he weighed 166 pounds. At the end of November he contracted a cold, the temperature rising not above 99.2° F. In December he weighed 167 pounds, had a very

Digitized by Google

healthy appearance, and his lungs showed abnormal respiratory sounds only in places.

Tuberculous Peritonitis.—The following case, treated at Haarlem (Holland) with the Alpine Sun Lamp, has been reported to the author.

A boy ten years old suffering from tuberculous peritonitis was operated upon and was treated on the beach with solar rays for four weeks without success. He had steady pain and had diarrhœa a few hours after eating. Then he was treated for four weeks with the lamp. The treatment was given three times a day, in the beginning for five minutes, and later for seven minutes each time. Almost immediately there was a very marked improvement, the pains ceased, and he began to sleep soundly. After six weeks of treatment all the sutures were discharged spontaneously from the wound and the patient was entirely cured.

Digitized by Google

In cases of tuberculosis, treatment with the lamp has to be carried on for months and sometimes for years; indeed, until permanent immunity has been established. It is recommended that vigorous general treatment be given two to three times a week with intervals of three to four weeks after every fifteen to twenty treatments. The treatment never results in hemorrhages of the lungs as has been shown above and illustrated by the cases given.

CHLOROSIS; ANÆMIA

The author has treated with the lamp many cases of chlorosis and anæmia, and has obtained satisfactory results. The general condition improved visibly, and the amount of hæmoglobin in the blood increased (usually noticeable after twelve to fifteen exposures). The number of erythrocytes and the percentage of hæmoglobin are, however, not directly affected by the radiations, as was shown by KARL BERNER

Digitized by Google

("On the Effect of the Use of the Alpine Sun Lamp upon the Blood," Strahlentherapie, Issue 11, 1914), but all kinds of leukocytes show a more or less distinct but constant decrease. The result of the treatment in cases of chlorosis and anæmia is accordingly due to stimulation of metabolism and nutrition.

In cases of chlorosis and anæmia a conservative use of the Alpine Sun Lamp is advisable, because the patients are frequently sensitive and therefore strong radiations might have an irritating effect.

In chlorotic and anæmic patients, the use of the lamp not infrequently produces but a mild pigmentation of the skin, as BERNER has also found. The reason for this is to be found in the individual condition of the skin.

LEUKÆMIA

According to WAGNER (Graz) this disease too is successfully treated with the Al-

Digitized by Google

pine Sun Lamp, probably for the reasons mentioned in the preceding section.

Concerning the technique, the same rules obtain as in the cases of chlorosis and anæmia.

ARTERIOSCLEROSIS

The author used the Alpine Sun Lamp on a man sixty-nine years of age who suffered from arteriosclerosis, with congestions in the head, dizziness, ringing in the ears, and tremor of the arms and legs to such a degree that he had to be led and could take only short walks. After the first application (lasting from eight to fifteen minutes at a distance of twenty inches from the light) the head felt freer and walking was better. After using the lamp for twelve days, the patient was almost free from trouble, and could walk without assistance for from half an hour to an hour.

A female patient, sixty years old, with

Digitized by Google

advanced arteriosclerosis of the coronary arteries, who had to be wheeled about in a chair, who could not tolerate baths, and who suffered at night from serious attacks of stenocardia, improved so much through the use of the Alpine Sun Lamp (twice a week from eight to fifteen minutes at a distance of twenty inches from the light) that she could take short walks lasting from twenty to thirty minutes, take baths, and sleep at night without an attack.

The author has treated a series of similar cases with good results by means of applications of the Alpine Sun Lamp. There was always a reduction of the high blood pressure, relief of the heart, improvement of the appetite and sleep and of the patient's general condition.

DISEASES OF THE HEART

Breiger (Berlin) observed that patients who suffered from dyspnea because of

Digitized by Google

cardiac insufficiency, breathed more freely after treatment with the Alpine Sun Lamp.

The author has obtained, without exception, not only passing but permanent and indeed striking improvement in a considerable number of cases of heart trouble with failure of compensation (insufficiency of the mitral valve, dilatation, arteriosclerosis of the heart, and cardiac neurosis), but to accomplish this result the radiations had to be sufficiently intense to produce hyperæmia of the skin with subsequent pigmentation. After each application the pulse became fuller and slower, and the breathing easier. The relief of the heart was noticeable in most cases even while the treatment was given, and the patients themselves became conscious of improved respiration.

KIDNEY DISEASES

In a case of contracted kidney, the author obtained a reduction of the blood pressure, improvement of the sleep and

Digitized by Google

the general condition by means of treatment with the Alpine Sun Lamp twice or three times a week for a month; exposure eight to twenty minutes at a distance of twenty inches from the light.

Although detailed reports of results in acute and chronic kidney disease are wanting, WAGNER (Graz), as well as the author, draws attention to the fact that quartz light treatment is indicated in these diseases because it lowers the blood pressure, relieves the heart and the blood vessels and increases diuresis. Because of the interrelation existing between the activities of the skin, the heart, and the kidneys, it is to be expected that the use of the Alpine Sun Lamp, which relieves heart and skin, will affect the functions of the kidneys in a similarly beneficial manner.

ENURESIS NOCTURNA

The author had good results from using the Alpine Sun Lamp on two young girls

Digitized by Google

of from 16 to 18 years, who had suffered from this annoying affection since childhood. The light was used 2 or 3 times a week for a month for from 8 to 20 minutes at a distance of 20 inches. At the same time mud baths were given. The patients complained of feeling chilly readily and their skin was dry and perspired easily. The author started with the view that the body lost too much heat through the abnormal permeability of the skin which caused constant stimulation of the sympathetic nerves and so brought on enuresis. The favorable result from the use of the lamp and the mud baths proved the correctness of this view whereas all usual remedies had in the course of many years been applied without success. Under the treatment the two patients lost their chilly sensations, their feet, which had until that time always felt cold, became warm and the enuresis nocturna disappeared.

Digitized by Google

LIVER DISEASES

WAGNER (Graz) recommends the employment of the Alpine Sun Lamp in the treatment of diseases of the liver, and the author improved materially a cirrhosis of the liver by its use.

STOMACH AND INTESTINAL DISEASES

WAGNER (Graz) found that after 5 to 10 treatments in cases of stomach and intestinal trouble, the appetite together with the general condition improved to such a degree that patients who previously had taken nourishment only in small quantities often showed true hunger and increased in weight.

OSTERMANN (Vienna) obtained surprising results with the lamp in cases of hypersecretion and hyperacidity even in very severe cases. After 2 or 3 applications without other than the dietetic measures, which

Digitized by Google

alone had formerly been much less effective, the patient's complaints disappeared, the appetite improved and the weight increased.

OBESITY

In obese individuals with sluggish metabolism, the use of the Alpine Sun Lamp aids oxidation and in conjunction with proper diet, effects reduction in weight.

DIABETES MELLITUS

LAMPE (Frankfurt am Main)[1] has obtained good results with the lamp, in connection with a suitable diet. The blood pressure was reduced and the general condition improved.

DIABETES INSIPIDUS[2]

The author, through the use of the lamp has cured a case of diabetes insipidus

[1] *Zeitschrift für physikalische und diätetische Therapie*, Bd. 17, 1913.

[2] *Deutsche medizinische Wochenschrift*, No. 43, 1911.

Digitized by Google

in a man 37 years old. The disease had appeared after a serious mastoid operation and had lasted for 23 years. Within 3 weeks 8 applications were made, each lasting from 12 to 20 minutes, at a distance of 20 inches from the light.

INSUFFICIENCY OF THE PANCREAS

NERRING (Düsseldorf) treated a severe case of insufficiency of the pancreas which showed highly fatty stools. The patient reacted very favorably to the application of the lamp.

TETANY

OSTERMANN (Vienna) treated a girl 18 years old who had suffered for years from typical tetany. A slight touch to the face would cause a painful attack; because of continued spastic contractions she was unable to rise alone from her bed. After 6

Digitized by Google

treatments a material improvement was noticed and a cure was obtained after 24 treatments, with which were combined inhalations of oxygen and adrenalin.

NEURASTHENIA; HYSTERIA

ARNOLD (Grossenhain) used the Alpine Sun Lamp with good results in neurasthenic patients, especially in those who had cardiac and gastro-intestinal symptoms.

The author has always had success with the lamp in neurasthenic and hysteric patients showing angio-neurotic, arterio-spastic and paræsthetic conditions caused by vasomotor disturbances.

WHOOPING COUGH

According to WAGNER (Graz) the general use of the lamp is indicated in the treatment of whooping cough.

Digitized by Google

BRONCHIAL CATARRH; EMPHYSEMA AND BRONCHITIS; BRONCHIAL ASTHMA

The author has frequently had pronounced success with the lamp in these diseases. In one case of emphysema and bronchitis in a woman 65 years old, who had not been benefited by a six weeks' stay in the South, the bronchial râles and asthmatic complaints disappeared almost completely after 12 applications (lasting from 5 to 20 minutes at a distance of 20 inches from the light) and the general condition improved visibly.

According to OSTERMANN (Vienna) the effect of the Alpine Sun Lamp in cases of bronchial asthma is as reliable as it is rapid, especially if combined with inhalations of adrenalin.

ABELS (Düsseldorf) reports that in three cases of bronchial asthma a subjective well-being followed upon the use of the lamp although a material improvement did

Digitized by Google

not result after 20 treatments had been given.

It may be added that a serious chronic emphysema remains, of course, incurable, but that in this affliction a service is rendered if the use of the lamp procures even a temporary relief, and upon that a practitioner can almost always rely.

CHOREA

The author observed good results from the radiations in a 10-year-old girl. The spasmodic movement of the muscles of the face and hands disappeared after twelve treatments, each of which lasted from 8 to 20 minutes at a distance of 20 inches from the light, and the general condition improved.

SLEEPLESSNESS

Sleeplessness due to disorders of the circulatory system and conditions of excitement improves visibly by the use of the

Digitized by Google

Alpine Sun Lamp, as has been observed by numerous authors.

KUTHAN (Tischnowitz) reports that often a single treatment has brought about sound sleep. At times the first treatment caused some excitement so that the first night patients did not sleep at all, but they did enjoy sound sleep the second and subsequent nights without further application of the rays.

We may add that the sleeplessness observed by Kuthan during the night following the treatment was probably due to over-exposure (see Part I). But with proper exposure it is safe to say that without exception sound sleep will follow.

RHEUMATISM

ABELS (Düsseldorf) reports:

(*a*) Several cases of acute muscular rheumatism which were favorably affected by the use of the Alpine Sun Lamp and

Digitized by Google

some of which were cured after three treatments.

(*b*) Three cases of serious gonarthritis rheumatica: (*a*) In the first of these cases a boy 12 years old was cured by 10 treatments with the lamp after the ailment had lasted 9 weeks. (*b*) In the second case a man 50 years of age obtained a marked improvement by 5 treatments. (*c*) In the third case, a woman 56 years old, no result was produced, 10 treatments being given; the disease had existed for 2 years.

The author also found that favorable results in rheumatic affections may be expected only in recent cases.

GOUT

The author in his work "On the Disposition and Treatment of Gout with Ultra-Violet Light" (*Zeitschrift für physikalische und diätetische Therapie,* Band 16, 1912) has pointed out the fact that in

Digitized by Google

gouty persons, many of whom suffer from poor heart action, the stimulation of the functions of the skin by the use of the Alpine Sun Lamp is a great advantage.

Next to the direct effect upon the skin, the reduction of blood pressure and the stimulation of metabolism are important in persons troubled with gout.

Other authors also confirm the advantages of this treatment in cases of gout.

II. Gynæcology

Up to the present, the following reports have been made on the use of the Alpine Sun Lamp in gynæcology.

Heynemann (Halle) found that the bactericidal effect of ultra-violet rays is pronounced only on the surface. He had good results in cases of suppurating wounds (skin infections after abdominal operations, etc.). Exuberant granulations disappeared. The result consists in that the

Digitized by Google

germs are killed, the wound is dried up and the processes of healing are encouraged. Granulating wounds or those where epithelium is forming tolerate stronger radiations than are applicable to the skin or inflamed mucous membranes. Ulcers in prolapse and pruritus vulvæ are likewise suited for treatment with the lamp. In gonorrhœal vaginitis, radiations cause some difficulty because of the inflammatory reaction produced. Not much success is to be expected in deep infections (such as mastitis, phlegmon). Any effect upon deeper lying tissues is indirectly due to the production of hyperæmia in the superficial tissues.

That the Alpine Sun Lamp can be used with good effect in gynæcology has, according to Heynemann, been definitely proved. Wagner (Graz) is of the opinion that treatment with the lamp is indicated in menstrual difficulties, such as pain in the back, dysmenorrhœa, fluor albus, myomata

Digitized by Google

of the uterus and metrorrhagia, which is caused by them. In these cases radiations upon the abdomen, the small of the back and the portio through a lateral lamp opening and speculum proved effective. Erosions of the portio, catarrh of the cervix and of the vagina, also colpitis granularis and gonorrhœa heal in a short time.

In gonorrhœa, the bactericidal property of the rays acts upon the gonococci no less than the heat. The vagina and the portio are first to be cleansed with H_2O_2 and then the treatment is given for from one to six minutes at a distance of from 5 to 6 inches; the surrounding parts must be carefully covered. Erosions of the portio which remained refractory to every other kind of treatment heal with a firm epithelium after six treatments. In all these cases the Alpine Sun Lamp was used upon the abdomen, then upon the small of the back and finally on the portio at every session. The effect is local as

Digitized by Google

well as general. Catarrh of the cervix heals, fluor decreases and disappears and a firm epithelium of the portio forms.

Ostermann (Vienna) writes that dysmenorrhœa has been cured by the use of the Alpine Sun Lamp and that metrorrhagia was at least considerably improved.

Liese (Lubeck) writes that, upon the recommendation of Wagner (Graz), he made an attempt to cure with the lamp, in conjunction with irrigations, a bad case of gonorrhœa in a female patient. The result was excellent.

The author obtained favorable results in treating dysmenorrhœa with the lamp. In one case he removed complaints incidental to pregnancy (such as flatulence, gastric disturbances and nausea) by carefully applying radiation to the abdomen.

For the sake of uniformity the local and the general treatment have been mentioned together under Gynæcology.

Digitized by Google

III. Ophthalmology

Wagner (Graz) recommends the use of the Alpine Sun Lamp in cases of chronic conjunctivitis, to clear up corneal opacities, in pannus, cataract, ectropium (unless contraindicated and using extreme care).

D. Inhalation

The inhalation of the ozone which is developed by the lamp and which has been described above under Technique, is used in diseases of the nose, pharynx and lungs.

The author saw good results in cases of acute and chronic rhinitis, ozena and hay fever. As inhalations of ozone have been recommended in whooping cough, they would seem indicated in this affliction. They are to be employed in addition to local or general treatment with the Alpine Sun Lamp.

From the foregoing remarks it is evident that the field of indications for the use

Digitized by Google

of the Alpine Sun Lamp embraces even now diseases of the most varying kinds. It may be extended to all afflictions in which a reduction of blood pressure and stimulation of metabolism are sought, a low blood pressure not being a contraindication. Further, the Alpine Sun Lamp is used to advantage, as LAZARUS (Berlin) writes, in cases where peripheral hyperæmia is sought, i. e., in angio-neurotic conditions, arterio-spastic phenomena, and paræsthesia when caused by vasomotor disturbances.

The successful use of the Alpine Sun Lamp in treating wounds of every kind, nervous affections, rheumatism, gout and anæmic conditions deserves to be especially mentioned because it may be employed to great advantage in the care of wounded and sick soldiers. Surgeon General Dr. SIEMON (Münster I. W.) reports in Number 48, 1914, of the *Münchener medizinische Wochenschrift,* on the use of Quartz

Digitized by Google

Light in tetanus; the author cured a suppurating gunshot wound by three treatments with the Alpine Sun Lamp. Since the publication of this little book in Germany, numerous reports have been received from army surgeons of excellent results obtained in the treatment of wounds as well as nervous affections.

But remember in all cases "DON'T GENERALIZE, BUT ALWAYS INDIVIDUALIZE."

Digitized by Google

INDEX

Abels on treatment of alopecia, 81
of bronchial asthma, 98
of canities, 81
of eczema, 77, 78
of rheumatism, 100
Acne, 72
Aigner on treatment of chronic tenosynovitis, 69
of scrofulous otitis media, 68
of ulcers, 71
Alopecia defluvium capillorum, 80
Alpine Sun Lamp, burners for, types of, 22
care of, 35, 36
description of, 13
effect of, on parts exposed to rays, 40
Hagemann ring of incandescent lights supplementing, 20
inhalation of ozone developed by, 40
effects of, 46
treatment with, 106
method of application of rays of, 36
precautions in use of, 33
protection of eyes in use of, 34
quartz burner for, 13
case for, 15
rheostat for, 17
Alpine Sun Lamp, as a source of ultra-violet light, 31
stand for, 18
technical procedure in use of, 32
treatment of disease with, 60 *et seq.*
technique of, 32
ultra-violet rays of, 28
Anæmia, 87
Ankylosis, knee-joint, 69
Arc light, electric, 27
Arnold on treatment of neurasthenia, 97
Arons, electric arc light of, 27
Arteriosclerosis, 89
Asthma, bronchial, 98

Bach, 13
on treatment of arteriosclerosis, 89
of chlorosis and anæmia, 87
of chorea, 99
of diabetes insipidus, 95
of dysmenorrhœa, 105
of emphysema and bronchial diseases, 98
of enuresis nocturna, 92, 93
of gout, 102

Digitized by Google

Bach on treatment of gunshot wounds, 108
of heart diseases, 91
of lacerations, 70
of neurasthenia and hysteria, 97
of pityriasis versicolor, 76
of rhinitis, ozena and hayfever, 62
of sycosis, 82
Berner on effect of the ultra-violet rays on blood, 87, 88
Bernhard, sun bath treatment of, for tuberculosis, 30, 60
Bieck on treatment of furunculosis, 74
of seborrhœa, 80
Blaschko on treatment of eczema, 78
of vitiligo, 82
Bones, tuberculosis of, 62
Brasch on treatment of rhinitis, with ultra-violet rays, 63
Breiger, 13
on treatment of cardiac insufficiency, 90, 91
Bronchial asthma, 98
catarrh, 98
Bronchitis, 98
Bruises, 70
Brustein on treatment of neuralgia and sciatica, 64
Burner, quartz, for Alpine Sun Lamp, 13
case for, 15
Burns, 71

Canities, 81
Carbuncles, 73
Cases of treatment with ultra-violet rays, 52-59
Catarrh, bronchial, 98
Chlorosis, 87
Chorea, 99

De Nobee, treatment of alopecia by, 81
von Dewitz, treatment of eczema by, 78
Diabetes insipidus, 95
Diabetes mellitus, 95
Diabetic gangrene, 74
Diesing on pigment formation in parts exposed to ultra-violet rays, 51

Eczema, 77
Emphysema, 98
Enuresis nocturna, 92
Eyes, diseases of, 106
effect of Roentgen rays on, 35
effect of ultra-violet light on, 34, 35

Finsen on ultra-violet rays, 27
Fürst on treatment of eczema, 78
of furunculosis, 74
of inflammation of nails, 74
of pityriasis capitis, 76
of urticaria, 76
Furunculosis, 73

Gangrene, diabetic, 74
General treatment, application of ultra-violet rays in, 38

Digitized by Google

General treatment with the Alpine Sun Lamp, 60 *et seq.*
with ultra-violet rays, 83
effect of, on general organism, 44
first, effect of, 41
Goggles for protection of eyes during treatment with Alpine Sun Lamp, 34
Gonorrhœa, 104, 105
Gout, 101
Gunshot wounds, 108
Gynæcological diseases, 102

Haas and Deblanco on treatment of vitiligo, 82
Haas and Delbauce on treatment of alopecia, 81
Hæmatomata, 70
Hagemann, 13
ring, 20
Hagemann and König, first local treatments of tuberculosis with Alpine Sun Lamp by, 60
Hayfever, 63
Heart, diseases of, 90
Heraeus, fusing of quartz crystal by, 28
Herzer on treatment of osteomyelitis, 68
of rhinophyma, 72
Hewitt, Cooper, mercury vapor lamp of, 28
Heynemann on treatment of gynæcological diseases, 102
Hysteria, 97

Incandescent lights supplementing the Alpine Sun Lamp, 20
Infra-red rays, 26, 27
Inhalation of ozone from Alpine Sun Lamp, 40, 106
effects of, 46
Intestinal diseases, 94
Iron-light of Kjeldsen, 27

Joints, tuberculosis of, 62

Kidney diseases, 91
Kjeldsen, iron-light of, 27
Knee-joint ankylosis and scar contraction, 69
König, 13
König and Hagemann, first local treatments of tuberculosis with Alpine Sun Lamp by, 60
Krüger on treatment of pulmonary tuberculosis, 84
Kuthan on treatment of sleeplessness, 100

Lacerations, 70
Lampe on treatment of diabetes mellitus, 95
Lazarus on treatment of angio-neurotic, arteriospastic conditions and paræsthesia, 107
Lengemann on treatment of sciatica, 67, 68
Leukemia, 88
Lichen, 80

Digitized by Google

Liese on treatment of gonorrhœa, 105
Lisner on pigment formation in parts exposed to ultra-violet rays, 51
Liver diseases, 94
Local treatment, with Alpine Sun Lamp, 60 *et seq.*
with ultra-violet rays, application of rays in, 37
first, effect of, 40
Lucas on treatment of eczema, 78
Lupus, 62
Luster on treatment of molluscum contagiosum, 73
Lymphatic glands, tuberculosis of, 62

Maklakoff on use of ultra-violet rays for general treatment, 29
Meirowsky on pigment formation in parts exposed to ultra-violet rays, 51
Mercury quartz-lamp, 28
vapor lamp, 28
Mitachke on treatment of diabetic gangrene, 74
Molluscum contagiosum, 73

Nagelschmidt, 13
on treatment of alopecia, 80
Nails, inflammation of, 74
Nerring on treatment of insufficiency of the pancreas, 96
of neuralgia, 67
Nervous affections, 108
Neuralgia, 64
Neurasthenia, 97
Noll on treatment of alopecia, 81
of eczema, 78
of lichen, 80

Obesity, 95
Ophthalmological disorders, 106
Osteomyelitis, 68
Ostermann on treatment of bronchial asthma, 98
of gynecological disorders, 105
of neuralgia, 67
of sciatica, 67
of stomach and intestinal diseases, 94
of tetany, 96
Otitis media, scrofulous, 68
Ozena, 63
Ozone from Alpine Sun Lamp, inhalation of, 40
effects of, 46
treatment by, 106

Pancreas, insufficiency of, 96
Peritonitis, tuberculous, 86
Philip on treatment of acne, 72
of alopecia, 81
of eczema by, 77

Digitized by Google

Pigment formation in parts exposed to ultra-violet rays, 50
Pityriasis versicolor, 76
Pruritus cutaneus, 77
Psoriasis, 75
Pulmonary tuberculosis, 83

Quartz burner for Alpine Sun Lamp, 13
  case for, 15
Quartz-lamp, mercury, 28
  therapeutic use of, 29
Quartz light, 26

Radiations, 60 *et seq.*
Rheostat for Alpine Sun Lamp, 17
  alternating current, 18
  direct current, 17
Rheumatism, 100
Rhinitis, 63
Rhinophyma, 72
Rieder on action of sun baths, 30
Roentgen rays, effect of, on eyes, 35
Rollier, sun bath treatment of, for tuberculosis, 30, 60
Rüs on treatment of eczema, 78
  of furunculosis, 74
  of seborrhœa, 80

Sardemann on treatment of furunculosis and carbuncles, 73
  of infected bruises, 70
  of psoriasis, 75
  of sycosis, 82
Scar-contraction, 69
Schaer on treatment of bruises and hæmatomata, 70
  of burns, 71
  of pruritus cutaneus, 77
  of sciatica, 68
Schmit on treatment of eczema, 77
Sciatica, 64
Seborrhœa, 80
Siemon on treatment of tetanus, 107
Skin, sensitiveness of, to ultra-violet rays, 46
  sensitization of, for treatment with ultra-violet rays, 50
Skin diseases, use of quartz-lamp for, 29
Sleeplessness, 99
Spectrum, 25
Stein on treatment of furunculosis, 74
Steinborn on treatment of alopecia, 81
Steuermach on treatment of seborrhœa, 80
  of x-ray dermatitis, 74
Stomach diseases, 94
Strauss on treatment of inflammation of the nails, 74
Sun bath treatment for tuberculosis, 30, 60
Sun baths, ultra-violet ray action in, 30
Sunlight, 25
Sycosis, 82

Tenosynovitis, chronic, 69
Tetanus, 107, 108
Tetany, 96
Treatment with Alpine Sun Lamp, 60. See

Digitized by Google

also Treatment with ultra-violet rays
Treatment with ultra-violet rays, 60
effect of, on general organism, 44
general, 83
application of rays in, 37, 38
first, effect of, 41
local, application of rays in, 37
first, 40
Tuberculosis, 60
of bones and joints, 62
of lymphatic glands, 62
pulmonary, 83
sun bath treatment of, 30, 60
Tuberculous peritonitis, 86

Ulcers, 71
Ultra-violet light, best sources of, 31
effect of, on eyes, 34, 35
Ultra-violet rays, 26, 27
action of, in sun baths, 30
application of, 36
for general treatment, 38
for local treatment, 37
different degrees of sensitiveness to, 46
effect of, on parts exposed, 40
from Alpine Sun Lamp, 28
pigment formation in parts exposed to, 50
Ultra-violet rays, properties of, 26
sensitization of skin for treatment with, 50
tanning caused by, 50
therapeutic use of, 29
treatment of disease with, 60 *et seq.*
general, 29, 83
effect of, on general organism, 44
first, effect of, 41
local, 29
first, effect of, 41
Urticaria, 76
Uviol glass, 28

Vitiligo, 82

Wagner on treatment of diseases of the eye, 106
of gynæcological diseases, 103
of kidney diseases, 82
of leukemia, 88, 89
of liver diseases, 94
of stomach and intestinal diseases, 94
of whooping cough, 97
Weidenreich on pigment formation in parts exposed to ultra-violet rays, 51
Weiss and Strauss on treatment of ulcer, 71
Whooping cough, 97
Wounds, 108
fresh, 70
granulating, 70

X-ray dermatitis, 74

Digitized by Google

MEDICAL MONOGRAPHS

Published by

PAUL B. HOEBER

67-69 East 59th St., New York

This catalogue comprises only our own publications. It will be noticed that particular care has been exercised in the selection of Monographs of timely interest.

We are always glad to consider the publication of new and original medical works. Correspondence with Authors is invited.

ADAM: ASTHMA AND ITS RADICAL TREATMENT. By James Adam, M.A., M.D., F.R.C.P.S. Hamilton. Dispensary Aural Surgeon, Glasgow Royal Infirmary.
8vo, Cloth, viii+184 Pages, Illustrated.....$1.50 *net.*

AMERICAN JOURNAL OF ROENTGENOLOGY, THE. Official Organ of the American Roentgen Ray Society. Edited by Dr. P. M. Hickey, Detroit. Published Monthly (Volume III, No. 1 Published January, 1916). $5.00 per year.

ARMSTRONG: I. K. THERAPY, WITH SPECIAL REFERENCE TO TUBERCULOSIS. By W. E. M. Armstrong, M.A., M.D. Dublin. Bacteriologist to the Central London Ophthalmic Hospital, Late Assistant in the Inoculation Department, St. Mary's Hospital, Padding, W.
8vo, Cloth, x+93 Pages, Illustrated.....$1.50 *net.*

BACH: ULTRA-VIOLET LIGHT BY MEANS OF THE ALPINE SUN LAMP. By Hugo Bach, M.D., Bad Elster, Saxony, Germany. Authorized Translation from the German. 114 Pages, Illustrated .....$1.00 *net.*

BIGG: INDIGESTION, CONSTIPATION AND LIVER DISORDER. By G. Sherman Bigg, Fellow of the Royal College of Surgeons; Fellow of the Royal Institute of Public Health; Late Surgeon Captain, Army Medical Staff; Surgeon Allahabad, India.
12mo, Cloth, viii+168 Pages.....$1.50 *net.*

Digitized by Google

BRAUN AND FRIESNER: CEREBELLAR ABSCESS: Its Etiology, Pathology, Diagnosis and Treatment. (See Friesner & Braun).....$2.50 *net.*

BROCKBANK: THE DIAGNOSIS AND TREATMENT OF HEART DISEASE. Practical Points for Students and Practitioners. By E. M. Brockbank, M.D. (Vict.), F.R.C.P., Hon. Physician, Royal Infirmary, Manchester, Clinical Lecturer on Diseases of the Heart, Dean of Clinical Instruction, University of Manchester.
12mo, Cloth, 2nd Edition, 120 Pages, Illustrated..$1.50 *net.*

BROWNE: RELIGIO MEDICI, Letters to a Friend, etc., and Christian Morals. 2nd Edition, with Preface by Drs. Osler and Packard.....*In Preparation.*

BRUCE: LECTURES ON TUBERCULOSIS TO NURSES. Based on a course delivered to the Queen Victoria Jubilee Nurses. By Olliver Bruce, M.R.C.S., L.R.C.P., Joint Tuberculosis Officer, County of Essex.
12mo, Cloth, 124 Pages, Illustrated.....$1.00 *net.*

BRUNTON: THERAPEUTICS OF THE CIRCULATION. By Sir Lauder Brunton, M.D., D.SC., LL.D. Edin., LL.D. Aberd., F.R.C.P., F.R.S. Consulting Physician to St. Bartholomew's Hospital. Second Edition, Entirely Revised.
Cloth, xxiv+536 Pages, 110 Illustrations.....$2.50 *net.*

BULKLEY: COMPENDIUM OF DISEASES OF THE SKIN. Based on an analysis of thirty thousand consecutive cases. With a Therapeutic Formulary, by L. Duncan Bulkley, A.M., M.D. Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital.
8vo, Cloth, xviii+286 Pages.....$2.00 *net.*

BULKLEY: CANCER: ITS CAUSE AND TREATMENT. By L. Duncan Bulkley.
8vo, Cloth, 224 Pages.....$1.50 *net.*

BULKLEY: DIET AND HYGIENE IN DISEASES OF THE SKIN. By L. Duncan Bulkley.
8vo, Cloth, xvi+194 Pages.....$2.00 *net.*

BULKLEY: THE INFLUENCE OF THE MENSTRUAL FUNCTION ON CERTAIN DISEASES OF THE SKIN. By L. Duncan Bulkley.
12mo, Cloth, 108 Pages.....$1.50 *net.*

BULKLEY: THE RELATIONS OF DISEASES OF THE SKIN TO INTERNAL DISORDERS: WITH OBSERVATIONS ON DIET, HYGIENE AND GENERAL THERAPEUTICS. By L. Duncan Bulkley.
12mo, Cloth, 175 Pages.....$1.50 *net.*

BULKLEY: PRINCIPLES AND APPLICATION OF LOCAL TREATMENT IN DISEASES OF THE SKIN. By L. Duncan Bulkley.
12mo, Cloth, 130 Pages.....$1.50 *net.*

Digitized by Google

CAUTLEY: THE DISEASES OF INFANTS AND CHILDREN. By Edmund Cautley, M.D. Cantab., F.R.C.P. Lond. Senior Physician to the Belgrave Hospital for Children; Physician to the Metropolitan Hospital; etc.
Large 8vo, Cloth, 1042 Pages.....$7.00 *net.*

CLARKE: PROBLEMS IN THE ACCOMMODATION AND REFRACTION OF THE EYE, A BRIEF REVIEW OF THE WORK OF DONDERS, AND THE PROGRESS MADE DURING THE LAST FIFTY YEARS. By Ernest Clarke, M.D., B.S., F.R.C.S. Senior Surgeon to the Central London Ophthalmic Hospital, Consulting Ophthalmic Surgeon to the Miller General Hospital.
8vo, Boards, 110 Pages.....$1.00 *net.*

COOKE: THE POSITION OF THE X-RAYS IN THE DIAGNOSIS AND PROGNOSIS OF PULMONARY TUBERCULOSIS. By W. E. Cooke, M.B., M.R.C.P.E., D.P.H. (Lond.), Medical Superintendent, Ochil Hills Sanatorium and Coppins Green Industrial Sanatorium. 8vo, Cloth, Illustrated.....$1.50 *net.*

COOPER: PATHOLOGICAL INEBRIETY. ITS CAUSATION AND TREATMENT. By J. W. Astley Cooper. Medical Superintendent and Licensee of Ghyllwood Sanatorium near Cockermouth, Cumberland. With Introduction by Sir David Ferrier, M.D., F.R.S. 12mo, Cloth, xvi+151 Pages.....$1.50 *net.*

COOPER: THE SEXUAL DISABILITIES OF MAN, AND THEIR TREATMENT. By Arthur Cooper. Consulting Surgeon to the Westminster General Dispensary; Formerly Surgeon to the Male Lock Hospital, London.
2nd Edition, 12mo, Cloth, viii+204 Pages.....$2.00 *net.*

CORBETT-SMITH: THE PROBLEM OF THE NATIONS. A Study in the Causes, Symptoms and Effects of Sexual Disease, and the Education of the Individual Therein. By A. Corbett-Smith, Editor of *The Journal of State Medicine;* Lecturer in Public Health Law at the Royal Institute of Public Health. Large 8vo, Cloth, xii+107 Pages.....$1.00 *net.*

CORNET: ACUTE GENERAL MILIARY TUBERCULOSIS. By Professor Dr. G. Cornet, Berlin and Reichenhall. Translated by F. S. Tinker, B.A., M.B., etc.
8vo, Cloth, viii+107 Pages.....$1.50 *net.*

CROOKSHANK: FLATULENCE AND SHOCK. By F. G. Crookshank, M.D. Lond., M.R.C.P. Physician (Out Patients) Hampstead General and N. W. Lond. Hospital; Assistant Physician The Belgrave Hospital for Children S. W.
8vo, Cloth, iv+47 Pages.....$1.00 *net.*

DAVIDSON: LOCALIZATION BY X-RAYS AND STEREOSCOPY. By Sir James Mackenzie Davidson, M.B., C.M. Aberd. Consulting Medical Officer, Roentgen Ray Department, Royal

Digitized by Google

London Ophthalmic Hospital, and X-Ray Department, Charing Cross Hospital; Fellow, Physical Society; President, Radiology Section, Seventeenth International Congress of Medicine. 8vo, Cloth, 72 Pages, Plates and 58 Stereoscopic Figures ..... $3.00 *net.*

DELORME: WAR SURGERY. By Edmond Delorme, General Medical Inspector of the French Army. Translated by D. De Meric, Surgeon to In-Patients, French Hospital, London. 12mo, Cloth, Illustrated, 248 Pages..... $1.50 *net.*

EDRIDGE-GREEN: THE HUNTERIAN LECTURES ON COLOUR-VISION AND COLOUR BLINDNESS. Delivered before the Royal College of Surgeons of England on February 1st and 3rd, 1911. By Professor F. W. Edridge-Green, M.D. Durh., F.R.C.S. England. Beit Medical Research Fellow.
8vo, Cloth, x+76 Pages..... $1.50 *net.*

EHRLICH: EXPERIMENTAL RESEARCHES ON SPECIFIC THERAPEUTICS. By Prof. Paul Ehrlich, M.D., D.SC. Oxon. Director of the Königliches Institut für Experimentelle Therapie, Frankfort. The Harben Lectures for 1907 of The Royal Institute of Public Health.
16mo, Cloth, x+95 Pages..... $1.00 *net.*

EINHORN: LECTURES ON DIETETICS. By Max Einhorn, Professor of Medicine at the New York Post-Graduate Medical School and Hospital and Visiting Physician to the German Hospital, New York.
12mo, Cloth, xvi+156 Pages..... $1.00 *net.*

ELLIOT: SCLERO-CORNEAL TREPHINING IN THE OPERATIVE TREATMENT OF GLAUCOMA. By Robert Henry Elliot, M.D., B.S. Lond., D.SC. Edin., F.R.C.S. Eng., etc. Lieut. Colonel I.M.S. Second Edition.
8vo, Cloth, 135 Pages, 33 Illustrations..... $3.00 *net.*

EMERY: IMMUNITY AND SPECIFIC THERAPY. By Wm. D'Este Emery, M.D., B.SC. Lond. Clinical Pathologist to King's College Hospital and Pathologist to the Children's Hospital, Paddington Green; formerly Assistant Bacteriologist to the Royal College of Physicians and Surgeons, and some time Lecturer on Pathology and Bacteriology in the University of Birmingham.
8vo, Cloth, 448 Pages, with 2 Illustrations..... $3.50 *net.*
ADOPTED BY THE U. S. ARMY.

FRIESNER AND BRAUN: CEREBELLAR ABSCESS; Its Etiology, Pathology, Diagnosis and Treatment. By Isidore Friesner, M.D., F.A.C.S., Adjunct Professor of Otology and Assistant Aural Surgeon, Manhattan Eye, Ear and Throat Hospital and Post. Graduate Medical School, and Alfred Braun, M.D., F.A.C.S., Assistant Aural Surgeon, Manhattan

Digitized by Google

Eye, Ear and Throat Hospital, Adjunct Professor of Laryngology, New York Polyclinic Hospital and Medical School and Adjunct Otologist, Mt. Sinai Hospital. 8vo, Cloth, about 200 Pages, 10 Plates, 16 Illustrations.....$2.50 *net.*

GHON: THE PRIMARY LUNG FOCUS OF TUBERCULOSIS IN CHILDREN. By Anton Ghon, M.D., English Translation by D. Barty King, M.A., M.D. Edin., M.R.C.P., Assistant Physician to the Royal Hospital for Diseases of the Chest.
196 Pages, 72 Text Figures and 2 Plates.....$3.75 *net.*

GILES: ANATOMY AND PHYSIOLOGY OF THE FEMALE GENERATIVE ORGANS AND OF PREGNANCY. By Arthur E. Giles, M.D., B.SC. Lond., M.R.C.P. Lond.; F.R.C.S. Ed. Gynecologist to the Prince of Wales General Hospital, Tottenham, and Surgeon to the Chelsea Hospital for Women.
Large 8vo, 24 Pages, with Mannikin.....$1.50 *net.*

GOULSTON: CANE SUGAR AND HEART DISEASE. By Arthur Goulston, M.A., M.D. Cantab. Hunterian Society's Medallist, 1912. 8vo, Cloth, 107 Pages.....$2.00 *net.*

GREEFF: GUIDE TO THE MICROSCOPIC EXAMINATION OF THE EYE. By Professor R. Greeff. Director of the University Ophthalmic Clinique in the Royal Charity Hospital, Berlin. With the co-operation of Professor Stock and Professor Wintersteiner. Translated from the third German Edition by Hugh Walker, M.D., M.B., C.M. Ophthalmic Surgeon to the Victoria Infirmary, Glasgow.
Large 8vo, Cloth, 86 Pages, Illustrated.....$2.00 *net.*

HARRIS: LECTURES ON MEDICAL ELECTRICITY TO NURSES. An Illustrated Manual by J. Delpratt Harris, M.D. Durh., M.R.C.S. Senior Surgeon and Honorary Medical Officer in charge of the Electrical Department, Royal Devon Hosp.
12mo, Cloth, 88 Pages, Illustrated.....$1.00 *net.*

HELLMAN: AMNESIA AND ANALGESIA IN PARTURITION—TWILIGHT SLEEP. By Alfred M. Hellman, B.A., M.D., F.A.C.S.
8vo, Cloth, with Charts, 200 Pages.....$1.50 *net.*

HEWATT: THE EXAMINATION OF THE URINE, and Other Clinical Side Room Methods. By Andrew Fergus Hewatt, M.B., CH.B., M.R.C.P. Edin.
16mo, 5th Edition, Numerous Illustrations.....$ .75 *net.*

HOFMANN-GARSON: REMEDIAL GYMNASTICS FOR HEART AFFECTIONS. Used at Bad-Nauheim. Being a Translation of "Die Gymnastik der Herzleidenden" von Dr. Med. Julius Hofmann und Dr. Med. Ludwig Pohlman. Berlin and Bad-Nauheim. By John George Garson, M.D. Edin., etc. Physician to the Sanatoria and Bad-Nauheim, Eversley, Hants. With 51 Full-page Illustrations and Diagrams. Large 8vo, Cloth, xvi+128 Pages.....$2.00 *net.*

Digitized by Google

HOWARD: THE THERAPEUTIC VALUE OF THE POTATO. By Heaton C. Howard, L.R.C.P. Lond., M.R.C.S. Eng.
8vo, Paper, vi+31 Pages, Illustrated.....50c

JELLETT: A SHORT PRACTICE OF MIDWIFERY FOR NURSES. Embodying the treatment adopted in the Rotunda Hospital, Dublin. By Henry Jellett, B.A., M.D. (Dublin University), F.R.C.P.I., Master Rotunda Hospital; Extern Examiner in Midwifery and Gynecology, Victoria University, Manchester; Late King's Professor of Midwifery; University of Dublin. With Six Plates and 169 Illustrations in the Text, also an Appendix, a Glossary of Medical Terms, and the Regulations of the Central Midwives Board.
12mo, Cloth, xvi+508 Pages.....$2.50 *net.*

KENWOOD: PUBLIC HEALTH LABORATORY WORK. By Henry R. Kenwood, M.B., F.R.S. Edin., P.P.H., F.C.S., Chadwick. Professor of Hygiene and Public Health, University of London; Medical Officer of Health and Public Analyst for the Metropolitan Borough of Stoke Newington; Examiner in Public Health to the Royal College of Physicians and Surgeons, London, etc.
6th Edition, 8vo, Cloth, 418 Pages, Illustrated....$4.00 *net.*

KERLEY: WHAT EVERY MOTHER SHOULD KNOW ABOUT HER INFANTS AND YOUNG CHILDREN. By Charles Gilmore Kerley, M.D. Professor of Diseases of Children, N. Y. Polyclinic Medical School and Hospital.
8vo, Paper, 107 Pages.....35c *net.*

KETTLE: THE PATHOLOGY OF TUMORS. By E. H. Kettle, M.D., B.S., Assistant Pathologist, St. Mary's Hospital, and Assistant Lecturer on Pathology, St. Mary's Hospital Medical School. About 240 Pages, 126 Illustrations...$3.00 *net.*

LEWERS: A PRACTICAL TEXTBOOK OF THE DISEASES OF WOMEN. By Arthur H. N. Lewers, M.D. Lond. Senior Obstetric Physician to the London Hospital; Late Examiner in Obstetric Medicine at the University of London; University Scholar & Gold Medallist in Obstetric Medicine, London University, etc.
With 258 Illustrations, 13 Colored Plates, 5 Plates in Black and White. 7th Edition, 8vo, Cloth, xii+540 Pages. $4.00 *net.*

LEWIS: CLINICAL DISORDERS OF THE HEART BEAT. A Handbook for Practitioners and Students. By Thomas Lewis, M.D., D.SC., F.R.C.P. Assistant Physician and Lecturer in Cardiac Pathology, University College Hospital Medical School, Physician to Out-Patients, City of London Hospital for Diseases of the Chest.
3rd Ed., 8vo, Cloth, 116 Pages, 54 Illustrations..$2.00 *net.*

Digitized by Google

LEWIS: LECTURES ON THE HEART. Comprising the Herter Lectures (Baltimore), a Harvey Lecture (New York), and an Address to the Faculty of Medicine at McGill University (Montreal). By Thomas Lewis.
124 Pages, with 83 Illustrations.....$2.00 *net.*

LEWIS: CLINICAL ELECTROCARDIOGRAPHY. By Thomas Lewis.
8vo, Cloth, 120 Pages, with Charts.....$2.00 *net.*

LEWIS: THE MECHANISM OF THE HEART BEAT. With Special Reference to Its Clinical Pathology. By Thomas Lewis.
Large 8vo, Cloth, 295 Pages, 227 Illus.....$7.00 *net.*

McCLURE: A HANDBOOK OF FEVERS. By J. Campbell McClure, M.D., Glasgow. Physician to Out-Patients, The French Hospital, and Physician to the Margaret Street Hospital for Consumption and Diseases of the Chest, London.
8vo, Cloth, 470 Pages, with Charts.....$3.50 *net.*

McCRUDDEN: THE CHEMISTRY, PHYSIOLOGY AND PATHOLOGY OF URIC ACID, AND THE PHYSIOLOGICALLY IMPORTANT PURIN BODIES. With a Discussion of the Metabolism in Gout. By Francis H. McCrudden.
12mo, Paper, 318 Pages.....$2.00 *net.*

McKISACK: SYSTEMATIC CASE TAKING. A Practical Guide to the Examination and Recording of Medical Cases. By Henry Lawrence McKisack, M.D., M.R.C.P. Lond. Physician to the Royal Victoria Hospital, Belfast.
12mo, Cloth, 166 Pages.....$1.50 *net.*

MACKENZIE: SYMPTOMS AND THEIR INTERPRETATIONS. By James Mackenzie, M.D., LL.D. Aber. and Edin. Lecturer on Cardiac Research, London Hospital,
8vo, Cloth, Illustrated, xxii+304 Pages.....$3.00 *net.*

MACMICHAEL: THE GOLD-HEADED CANE. By William Macmichael. Reprinted from the 2nd Edition. With a Preface by Sir William Osler and an Introduction by Dr. Francis R. Packard. Printed from large Scotch type on a special heavyweight paper, 5¼ by 7¾ inches, bound in blue Italian handmade paper, with parchment back, gilt top, square back, and gold stamping on back and side.....$3.00 *net.*

MAGILL: NOTES ON GALVANISM AND FARADISM. By E. M. Magill, M.B., B.S. Lond., R.C.S.I. (Hons.)
12mo, Cloth, 220 Pages, 67 Illustrations.....$1.50 *net.*

MARTINDALE and WESTCOTT: "SALVARSAN" "606" (DIOXY-DIAMINO-ARSENOBENZOL), ITS CHEMISTRY, PHARMACY AND THERAPEUTICS. By W. Harrison Martindale, PH.D. Marburg, F.C.S., and W. Wynn Westcott, M.B.
8vo, Cloth, xvi+76 Pages.....$1.50 *net.*

Digitized by Google

MINETT: DIAGNOSIS OF BACTERIA AND BLOOD PARASITES. By E. P. Minett, M.D., D.P.H., D.T.M. and H., M.R.C.S., L.R.C.P. Assistant Government Medical Officer of Health and Bacteriologist British Guiana.
12mo, Cloth, viii+80 Pages.....$1.00 *net.*

MOTT: NATURE AND NURTURE IN MENTAL DEVELOPMENT. By F. W. Mott, M.D., F.R.S., F.R.C.P. Pathologist to the London County Asylums, Consulting Physician to Charing Cross Hospital and the Queen Alexandra Military Hospital.
12mo, Cloth, 151 Pages, with Diagrams.....$1.50 *net.*

MURRELL: WHAT TO DO IN CASES OF POISONING. By William Murrell, M.D., F.R.C.P. Senior Physician to the Westminster Hospital; Lecturer on Clinical Medicine and Joint Lecturer on the Principles and Practice of Medicine; Late Examiner in the Universities of Edinburgh, Glasgow and Aberdeen, and to the Royal College of Physicians.
11th Edition, 16mo, Cloth, 283 Pages.....$1.00 *net.*

OLIVER: LEAD POISONING: FROM THE INDUSTRIAL, MEDICAL AND SOCIAL POINT OF VIEW. Lectures Delivered at the Royal Institute of Public Health. By Sir Thomas Oliver, M.A., M.D., F.R.C.P. Consulting Physician, Royal Victoria Infirmary, and Professor of the Principles and Practice of Medicine, University of Durham College of Medicine, Newcastle-upon-Tyne, Late Medical Expert, Dangerous Trades Committee; Home Office. Large 12mo, Cloth, 294 Pages.....$2.00 *net.*

OSLER: TWO ESSAYS. By Sir William Osler, M.D. Regius Professor of Medicine at Oxford.
Vol. 1. A WAY OF LIFE. An Address to Yale Students, Sunday Evening, April 20th, 1913. 16mo, Cloth, 61 Pages.....50c *net.*
Vol. 2. MAN'S REDEMPTION OF MAN. A Lay Sermon, McEwan Hall, Edinburgh, Sunday, July 2d, 1910. 16mo, Cloth, 63 Pages.....50c *net.*
The Set Neatly Bound and Boxed.....$1.00 *net.*
(A handsome presentation set.)

OTT: FEVER, ITS THERMOTAXIS AND METABOLISM. By Isaac Ott, A.M., M.B. Professor of Physiology in the Medico-Chirurgical College of Philadelphia; Ex-Fellow in Biology Johns Hopkins University; Consulting Neurologist, Norristown Asylum, Penna.; Ex-President of American Neurological Association, etc.
12mo, Cloth, 168 Pages, Illustrated.....$1.50 *net.*

PAGET: FOR AND AGAINST EXPERIMENTS ON ANIMALS. Evidence before the Royal Commission of Vivisection. By Stephen Paget, F.R.C.S. Hon. Secretary Research Defence

Digitized by Google

Society. With an Introduction by The Right Hon. The Earl of Cromer, O.M., G.C.M.G., G.C.B.
8vo, Cloth, Illustrated, xii+344 Pages.....$1.50 *net.*

PEGLER: MAP SCHEME OF THE SENSORY DISTRIBUTION OF THE FIFTH NERVE (TRIGEMINUS) WITH ITS GANGLIA AND CONNECTIONS. By L. Hemington Pegler, M.D., M.R.C.S. Senior Surgeon, Metropolitan Ear, Nose and Throat Hospital, etc.
Mounted on Rollers, 4ft. 1 in. x. 4 ft. 8 in.....$7.00 *net.*
Folded in Cloth Binder.....$8.00 *net.*

RAWLING: LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY. By L. Bathe Rawling, M.B., B.C. (Cant.), F.R.C.S. (Lond.) Surgeon with Charge of Out-Patients, Late Senior Demonstrator of Anatomy at St. Bartholomew's Hospital; Late Assistant-Surgeon to the German Hospital, Dalston; Late Hunterian Professor Royal College of Surgeons, England, etc.
5th Ed., 8vo, Cloth, 31 Plates, xii+96 Pages of Text. $2.00 *net.*

RITCHIE: AURICULAR FLUTTER. By William Thomas Ritchie, M.D., F.R.C.P.E., F.R.S.E. Physician to the Royal Infirmary; Lecturer on the Practice of Medicine, School of Medicine of the Royal Colleges; Lecturer on Clinical Medicine in the University of Edinburgh. Large 8vo, Cloth, xii+144 Pages, 21 Plates, 107 Illustrations.....$3.50 *net.*

VON RUCK and VON RUCK: STUDIES IN IMMUNIZATION AGAINST TUBERCULOSIS. By Karl von Ruck, M.D., and Silvio von Ruck, M.D.
8vo, Cloth, about 440 Pages.....$3.50 *net.*

RUTHERFORD: THE ILEO-CÆCAL VALVE. By A. H. Rutherford, M.D. Edin. 8vo, Cloth, 63 Pages of Text, 23 Full Page Plates, 3 of Which Are Colored.....$2.25 *net.*

SAALFELD: LECTURES ON COSMETIC TREATMENT. A Manual for Practitioners. By Dr. Edmund Saalfeld of Berlin. Translated by J. F. Dally, M.A., M.D., B.C. Cantab., M.R.C.P. Lond. Physician to the St Marylebone General Dispensary. With an Introduction and Notes by P. S. Abraham, M.A., M.D., B.SC., F.R.C.S.I., Surgeon for, and Lecturer on, Diseases of the Skin, West London Hospital and College. Late Surgeon to the Skin Hospital, Blackfriars.
12mo, Cloth, xii+186 Pages, Illustrated.....$1.75 *net.*

SCHOOL OF SALERNO, THE: New Edition, Edited by Drs. Osler and Packard.....*In Preparation*

SCOTT: MODERN MEDICINE AND SOME MODERN REMEDIES. By Thomas Bodley Scott, with a Preface by Sir Lauder Brunton.
8vo.....$1.50 *net.*

Digitized by Google

SCOTT: THE ROAD TO A HEALTHY OLD AGE. Essays by Thomas Bodley Scott, M.D.
12mo, Cloth, 104 Pages.....$1.00 *net.*

SENATOR and KAMINER: MARRIAGE AND DISEASE. Being an Abridged Edition of "Health and Disease in Relation to Marriage and the Married State." By Professor H. Senator and Dr. S. Kaminer. Translated from the German by J. Dulberg, M.D.
8vo, Cloth, 452 Pages.....$2.50 *net.*

SMITH: SOME COMMON REMEDIES, AND THEIR USE IN PRACTICE. By Eustace Smith, M.D. Fellow of the Royal College of Physicians; Senior Physician to the East London Hospital for Children; Consulting Physician to the Victoria Park Hospital for Diseases of the Chest.
8vo, Cloth, viii+112 Pages.....$1.25 *net.*

SQUIER and BUGBEE: MANUAL OF CYSTOSCOPY. By J. Bently Squier, M.D. Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital, and Henry G. Bugbee, M.D.
8vo, Flex. Leather, xiv+117 Pages, 26 Colored Plates $3.00 *net.*
ADOPTED BY THE U. S. ARMY.

STARK: THE GROWTH AND DEVELOPMENT OF THE BABY. A tabular chart, giving the result of personal observation, verified by authoritative data, as to development, weight, height, etc., during the first seven years. By Morris Stark, M.A., B.S., M.D. Instructor of Pediatrics, New York Post-Graduate Medical School, etc.
Heavy Paper, 20 by 25 inches.....50c *net.*

STEPHENSON: EYE-STRAIN IN EVERY-DAY PRACTICE. By Sidney Stephenson, M.B., C.M. Edin., D.O. Oxon., F.R.C.S. Edin. Ophthalmic Surgeon to the Queen's Hospital for Children; Editor of the *Ophthalmoscope.*
8vo, Cloth, x+139 Pages.....$1.50 *net.*

STEPHENSON: A REVIEW OF HORMONE THERAPY. 1913.
8vo, Cloth, viii+170 Pages.....$1.00 *net.*
Bound and interleaved edition of the famous "Hormone Number" of the *Prescriber* (Edinburgh).

SWIETOCHOWSKI: MECHANO-THERAPEUTICS IN GENERAL PRACTICE. By G. de Swietochowski, M.D., M.R.C.S. Fellow of the Royal Society of Medicine; Clinical Assistant, Electrical and Massage Department, King's College Hosp.
12mo, Cloth, xiv+141 Pages, 31 Illustrations.....$1.50 *net.*

TOUSEY: ROENTGENOGRAPHIC DIAGNOSIS OF DENTAL INFECTION IN SYSTEMIC DISEASES. By Sinclair Tousey, A.M., M.D.
About 72 Pages and 70 Illustrations.....$1.50 *net.*

Digitized by Google

TURNER and PORTER: THE SKIAGRAPHY OF THE ACCESSORY NASAL SINUSES. By A. Logan Turner, M.D., F.R.C.S.E., F.R.S.E. Surgeon to the Ear and Throat Department, the Royal Infirmary, Edinburgh, and W. G. Porter, M.B., B.SC., F.R.C.S.E. Surgeon to Eye and Throat Infirmary, Edinburgh.
Quarto, Cloth, 45 Pages of Text, 39 Plates.....$4.50 *net.*

WANKLYN: HOW TO DIAGNOSE SMALLPOX. A Guide for General Practitioners, Post-Graduate Students, and Others. By W. McC. Wanklyn, B.A. Cantab., M.R.C.S., L.R.C.P., D.P.H. Assistant Medical Officer of the London County Council and formerly Medical Superintendent of the River Ambulance Service (Small-pox).
8vo, Cloth, 102 Pages, Illustrated.....$1.50 *net.*

WATSON: GONORRHŒA AND ITS COMPLICATIONS IN THE MALE AND FEMALE. By David Watson, M.B., C.M., Surgeon, Glasgow Lock Hospital Dispensary, Surgeon for Venereal Diseases, Glasgow Royal Infirmary, etc., etc. 8vo, Cloth, 375 Pages, 72 Illustrations, 12 Plates, Some Colored.....$3.75 *net.*

WHITE: THE PATHOLOGY OF GROWTH. TUMOURS. By Charles Powell White, M.C., F.R.C.S. Director, Pilkington Cancer Research Fund, Pathologist Christie Hospital, Special Lecturer in Pathology, University of Manchester.
8vo, Cloth, xvi+235 Pages, Illustrated.....$3.50 *net.*

WHITE: OCCUPATIONAL AFFECTIONS OF THE SKIN. A brief account of the trade Processes and Agents which give rise to them. By P. Prosser White, M.D., Ed., M.R.C.S. Lond. Life Vice-President, Senior Physician and Dermatologist, Royal Albert Edward Infirmary, Wigan, Vice-President, Assoc. Certif. Fact. Surgeon; Life Fellow, Lond. Dermat. Society.
8vo, Cloth, 165 Pages.....$2.00 *net.*

WICKHAM and DEGRAIS: RADIUM. As employed in the treatment of Cancer, Angiomata, Keloids, Local Tuberculosis and other affections. By Louis Wickham, M.V.O. Médecin de St. Lazare; Ex-Chef de Clinique à L'Hôpital St. Louis, and Paul Degrais, Ex-Chef de Laboratoire à L'Hôpital St. Louis. Chefs de service au Laboratoire Biologique du Radium; Laureats de L'Academie de Médecine.
8vo, Cloth, 53 Illustrations, viii+111 Pages.....$1.25 *net.*

WRENCH: THE HEALTHY MARRIAGE. A Medical and Psychological Guide for Wives. By G. T. Wrench, M.D., B.S. Lond., Past Assistant Master of the Rotunda Hospital, Dublin.
8vo, Cloth, x+300 Pages.....$1.50 *net.*

WRIGHT: THE UNEXPURGATED CASE AGAINST WOMAN SUFFRAGE. By Sir Almroth E. Wright, M.D., F.R.S.
8vo, Cloth, xii+188 Pages.....$1.00 *net.*

Digitized by Google

WRIGHT: ON PHARMACO-THERAPY AND PREVENTIVE INOCULATION; Applied to Pneumonia in the African Native, with a Discourse on the Logical Methods Which Ought to Be Employed in the Evaluation of Therapeutic Agents. By Sir Almroth E. Wright, M.D., F.R.S.
8vo, Cloth, 124 Pages.....$2.00 *net.*

Complete catalogue and descriptive circulars will be sent on request.

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

22.W.78.
Ultra-violet light by means of 1916
Countway Library
AQB3084
3 2044 045 008 620

Digitized by Google

22.W.78.
Ultra-violet light by means of 1916
Countway Library AGB2084
3 2044 045 008 620

Digitized by Google